SHARP

SERVICE MANUAL

GF-777H

ATSM881115RCS

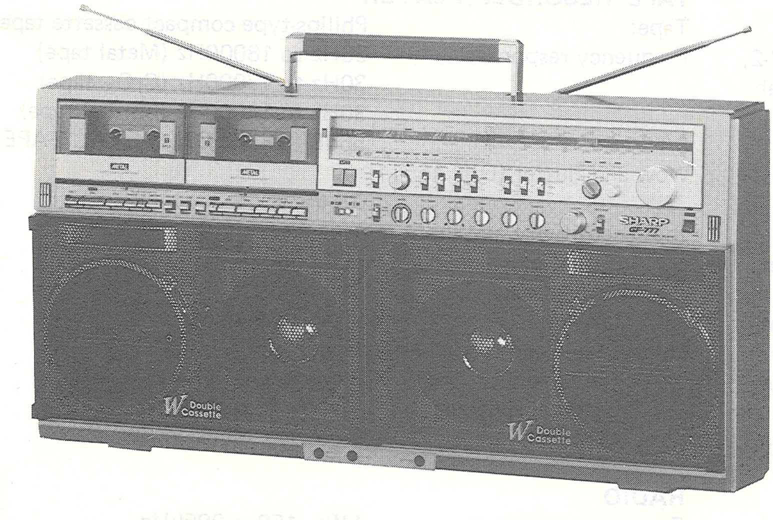

PHOTO: GF-777H

GF-777H
GF-777E

In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified be used.

FEATURES

- Multi-Amp 3-Way 6-Speaker System Massive 90W PMPO
- Dynamic Super Woofer Sound
- 16cm (6½") Woofer with Rigid Speaker Ring
- Horn Tweeter for Clear, Crisp Highs
- Two Decks Side by Side, for Versatile Record/Playback
- Soft-Touch Cassette Controls
- Brilliant Metal Tape Sound
- APLD (Auto Program Locate Device)
- Sharp Super Noise Reduction System

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SHARP CORPORATION OSAKA, JAPAN

FOR A COMPLETE DESCRIPTION OF THE OPERATION OF THIS UNIT,
PLEASE REFER TO THE OPERATION MANUAL

SPECIFICATIONS

GENERAL

Power source:		AC 110/220/240V, 50/60Hz DC 15V (UM/SUM-1, R-20, HP-2, or "D" battery x 10, or external DC supply)
Speakers:	Super Woofer;	16cm (6-1/2") x 2
	Woofer;	16cm (6-1/2") x 2
	Tweeter;	Horn type x 2
Output power:	(GF-777H)	(DIN 45324) MPO 28W, AC supply operation, with four amplifiers RMS 24W, DC supply operation, with four amplifiers
	(GF-777E)	MPO 45W, AC supply operation, with four amplifiers RMS 24W, DC supply operation, with four amplifiers
Semiconductors:		17-IC's 52-Transistors 1-FET 1-SCR 61-Diodes 11-LED's
Dimensions:	Width;	752mm
	Depth;	166mm
	Height;	379mm
Weight (without batteries):		12.2kg

TAPE RECORDER/PLAYER

Tape:	Philips-type compact cassette tape
Frequency response:	30Hz to 18000Hz (Metal tape) 30Hz to 17000Hz (CrO_2 tape) 30Hz to 14000Hz (normal tape)
S/N ratio:	56dB (SNRS: ON, METAL TAPE)
Wow and flutter (DIN 45511):	0.14%
Input sensitivity and input impedance:	
Ext. Mic;	600 ohms
Mixing mic;	600 ohms
Line in;	0.1V/100k ohms
Output level and loaded impedance:	
Headphones;	8 ohms to 25 ohms
External speaker;	4 ohms to 8 ohms
Line out;	0.6V/47k ohms

RADIO

Frequency range:	LW; 150 – 285kHz MW; 520 – 1620kHz SW; 5,95 – 18MHz FM; 87,6 – 108MHz

POWER SUPPLY

The GF-777H/E Unit will operate on an AC mains supply of 110 Volts, 220 Volts, or 240 Volts of 50Hz or 60Hz. For portable use it will operate on its internal batteries, or from an external 15 Volts DC supply (with an adaptor).

AC SUPPLY VOLTAGE ADJUSTMENT

The Voltage Selector setting should be checked to see that it conforms to the local AC supply voltage. This must be done before plugging in to the AC supply. Adjustment is made by turning the adjusting screw in either direction with a minus headed screwdriver until reading of Selector matches the local AC supply voltage.

Caution:
Use this unit only on the specified voltages, otherwise damage, fire, or accidents may be caused. SHARP cannot accept responsibility for any damage resulting from the use of this unit on unspecified voltages.

NAMES OF PARTS

1. Deck 1: Cassette Compartment
2. Deck 2: Cassette Compartment
3. Super Woofer Sound Control (Left)
4. Super Woofer Sound Control (Right)
5. Tweeter (Left)
6. Woofer (Left)
7. Super Woofer (Left)
8. Deck 1: Monitoring Socket
9. Mixing Microphone Socket
10. Headphones Socket
11. Super Woofer (Right)
12. Woofer (Right)
13. Tweeter (Right)
14. Built-in Microphone For Left Channel Recording
15. Built-in Microphone For Right Channel Recording

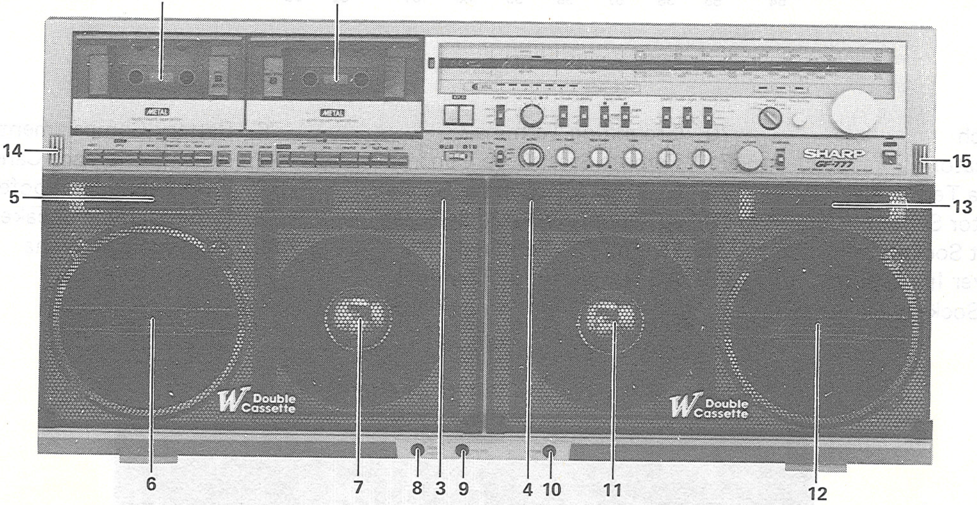


Figure 3-1

16. Deck 1: Cassette Ejection Key
17. Deck 1: Playback Key
18. Deck 1: Stop Key
19. Deck 1: Rewind/Review Key
20. Deck 1: Cut Key
21. Deck 1: Fast Forward Wind/Cue Key
22. Deck 1: Pause Key
23. Deck 2: Editing Key
24. Deck 2: Pause Key
25. Deck 2: Record Key
26. Deck 2: Playback Key
27. Deck 2: Stop Key
28. Deck 2: Rewind/Review Key
29. Deck 2: Cut Key
30. Deck 2: Fast Forward Wind/Cue Key
31. Deck 2: Ejection Key

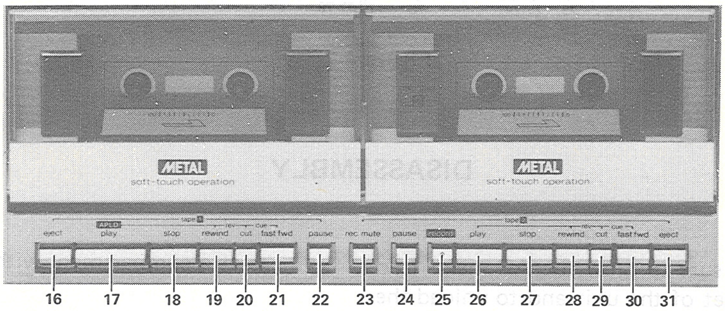


Figure 3-2

32. Deck 2: Tape Counter
33. Deck 2: Tape Counter Reset Button
34. Stereo Recording Level Control (Left)
35. Stereo Recording Level Control (Right)
36. Recording Mode Switch
37. Dubbing Switch
38. VU Meter/Battery Indicator
39. VU/Meter/Tuning Indicator
40. Deck 1: Tape Selector Switch
41. Deck 2: Tape Selector Switch
42. SNRS Switch
43. Meter Selector/Dial Light Switch
44. FM Mode/FM Muting Switch
45. Wave Band Selector Switch
46. Radio Echo Indicator
47. Dubbing Indicator
48. FM Stereo Broadcast Indicator
49. Fine Tuning Control
50. Tuning Control
51. APLD Input Buttons

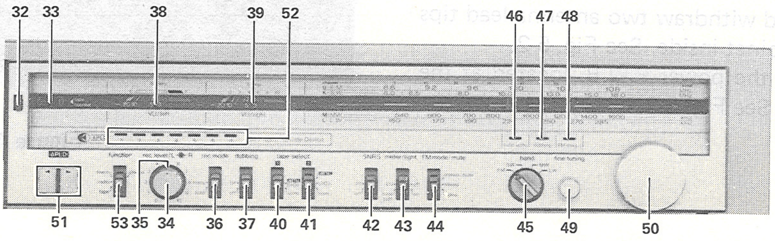


Figure 3-3

52. APLD Indicators
53. Function Switch
54. Deck Mode Selector Switch
55. Mixing Switch
56. Echo Control
57. Microphone Fader Control
58. Tape Fading Control
59. Bass Tone Control
60. Treble Tone Control
61. Channel Balance Control
62. Output Volume Control
63. Loudness Switch

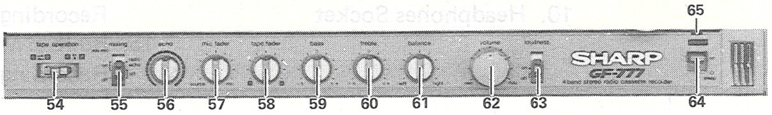


Figure 4-1

64. Power Switch
65. Power Indicator
66. FM Antenna Terminals
67. Input Selector Switch
68. Line Output Sockets
69. Record Player Input and Line Input Sockets
70. Grounding Terminal
71. Remote Start/Stop Control Socket
72. External Microphone Socket
73. AC Supply Voltage Selector
74. 15 Volt DC Terminal
75. AC Supply Input Terminal
76. Battery Compartment
77. Beat Interference Cancelling Switch
78. External Super Woofer Sockets
79. External Main Speaker Sockets
80. Telescopic Antenna

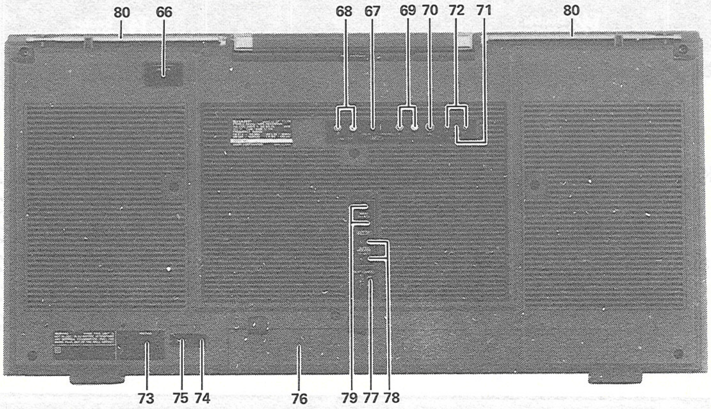


Figure 4-2

DISASSEMBLY

Caution:
Prior to the disassembly, be sure to draw the AC mains lead plug from the AC mains socket of the unit and to unload the cassette compartment with a cassette tape.

■ Removal of Front Cabinet and Back Cabinet

1. Remove one tuning control knob, one fine tuning control knob, one volume control knob, two record control knobs, six other control knobs, one deck mode selector knob, one wave band selector knob and other ten selector knobs. Then remove two punching metals and two super woofer sound control knobs. See Fig. 4-3.
2. Remove nine screws at the front cabinet and back cabinet. See Fig. 5-1.
3. Open the back cabinet, and withdraw two antenna lead tips (white, black) from the cabinet inside. See Fig. 5-2.
4. Remove one socket from the power P.W.B. located at the lower of the back cabinet. See Fig. 5-3.

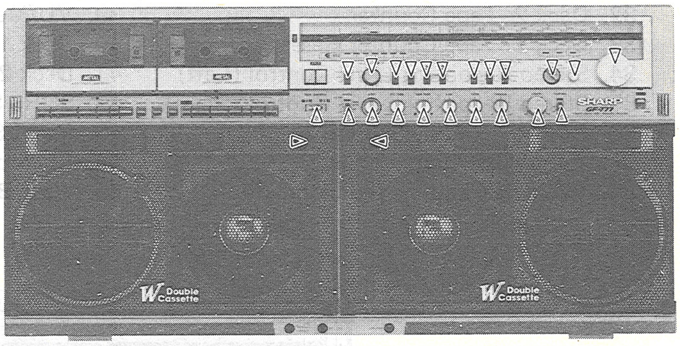


Figure 4-3

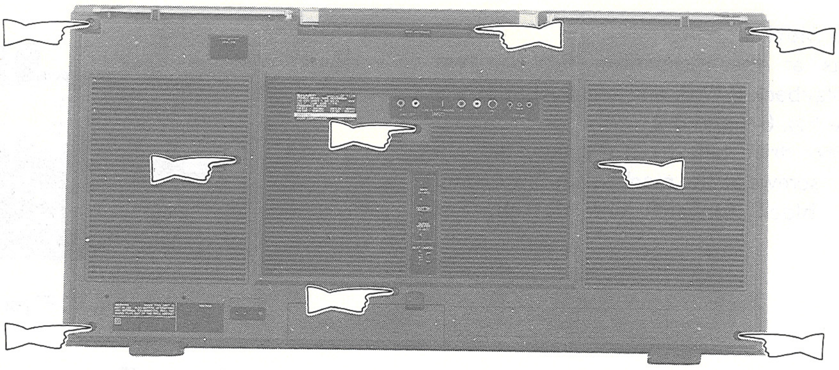


Figure 5-1

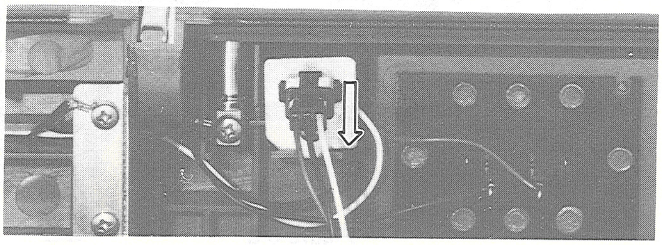


Figure 5-2

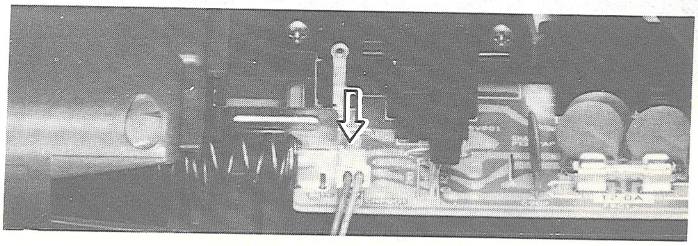


Figure 5-3

■ Removal of Main Frame

1. Remove five sockets at the power amplifier P.W.B. See Fig. 5-4.
2. Remove three screws at the main frame, two screws at the power switch holder, one screw at the power amplifier P.W.B., three screws at the headphone/microphone P.W.B. and one socket at the echo P.W.B. Then hold the main frame up to remove. See Fig. 5-5.

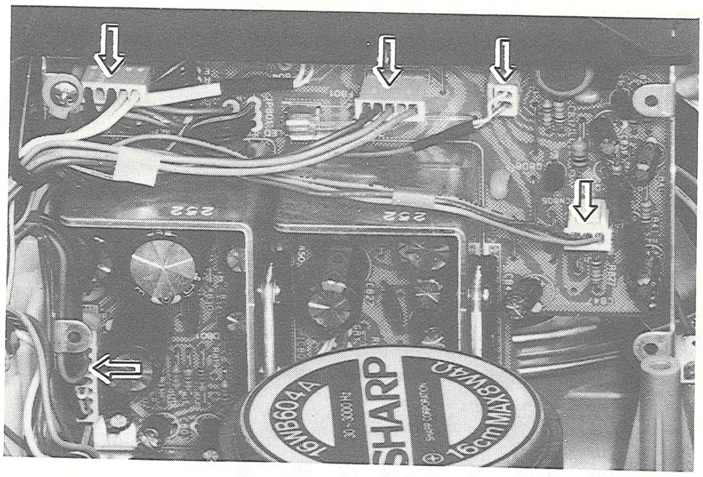


Figure 5-4

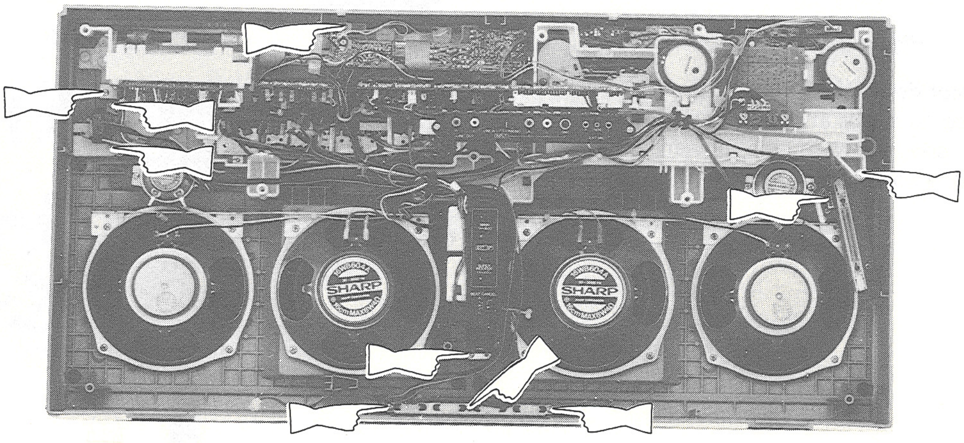


Figure 5-5

■ Removal of Mechanism Block

1. Remove three sockets at the mechanism P.W.B., two sockets at the record/playback P.W.B. and one socket at the bias current P.W.B. See Fig. 6-1 and 6-2.
2. Detach the tape counter drive belt from the tape take-up reel disk. Remove four screws at the mechanism block, and shift the mechanism block forwards and detach. See Fig. 6-3.

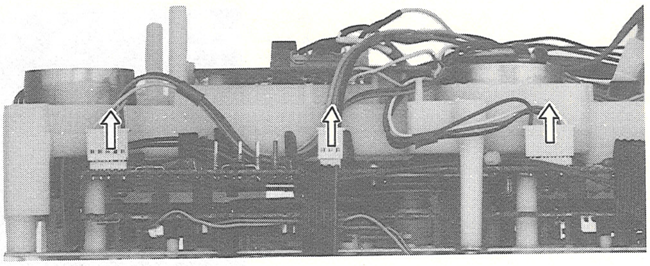


Figure 6-1

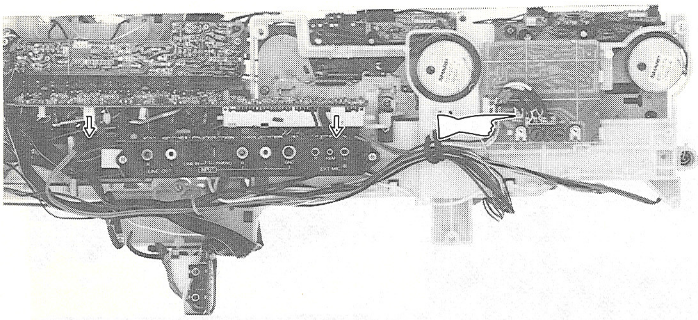


Figure 6-2

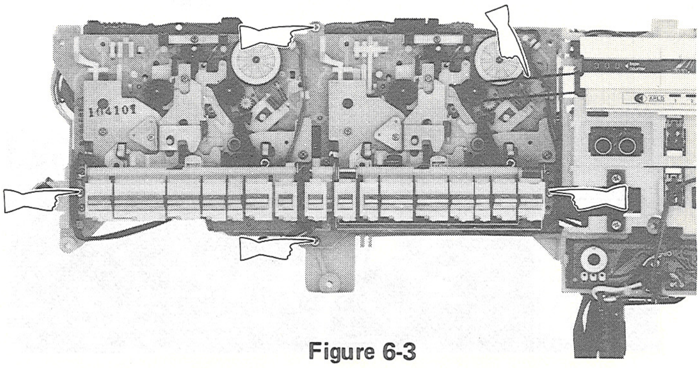


Figure 6-3

■ Removal of Tuner Frame

1. Remove one socket at the tuner P.W.B. See Fig. 6-4.
2. Loosen three tabs securing the dial scale plate, and detach the plate while shifting it down. See Fig. 6-5.
3. Remove three screws at the tuner frame, and detach the frame while shifting it to right. See Fig. 6-6.

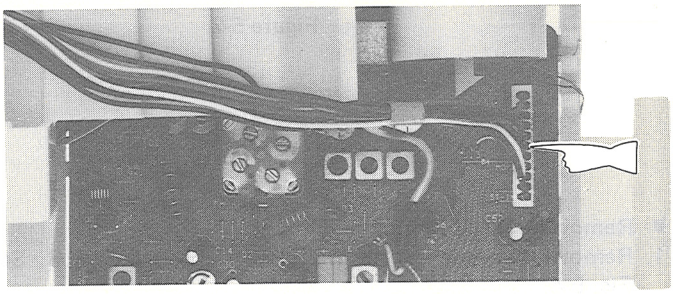


Figure 6-4

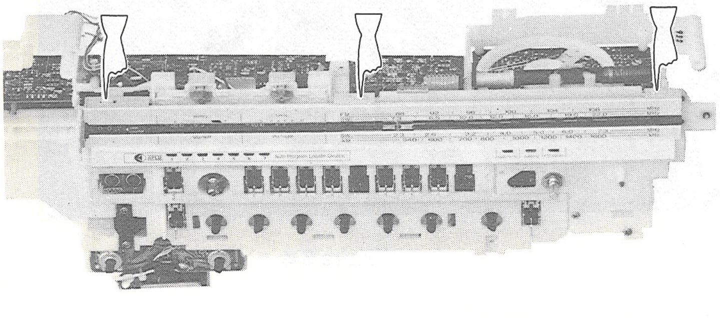


Figure 6-5

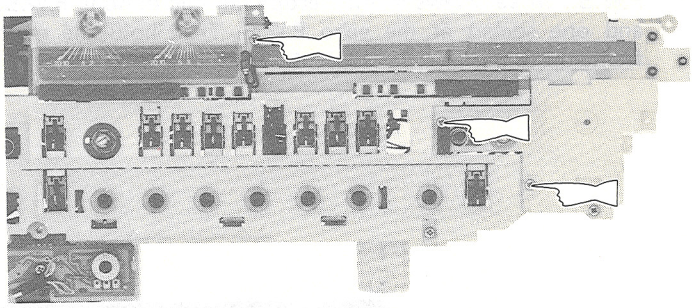


Figure 6-6

■ Removal of Power Amplifier P.W.B.

1. Remove one screw and two tabs at the super woofer sound control P.W.B., and one screw at the power amplifier P.W.B. Then hold up the power amplifier P.W.B. to remove. See Fig. 6-7.

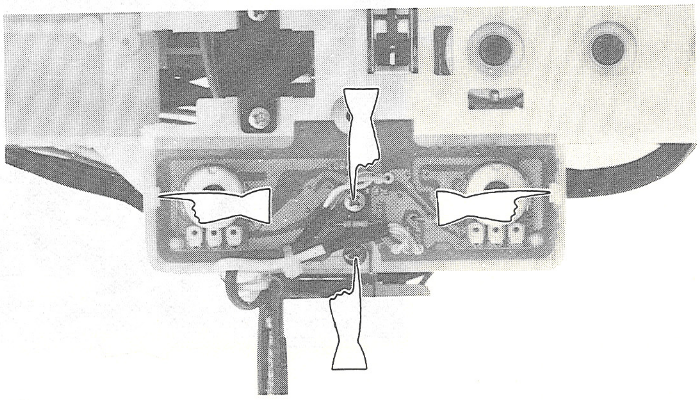


Figure 6-7

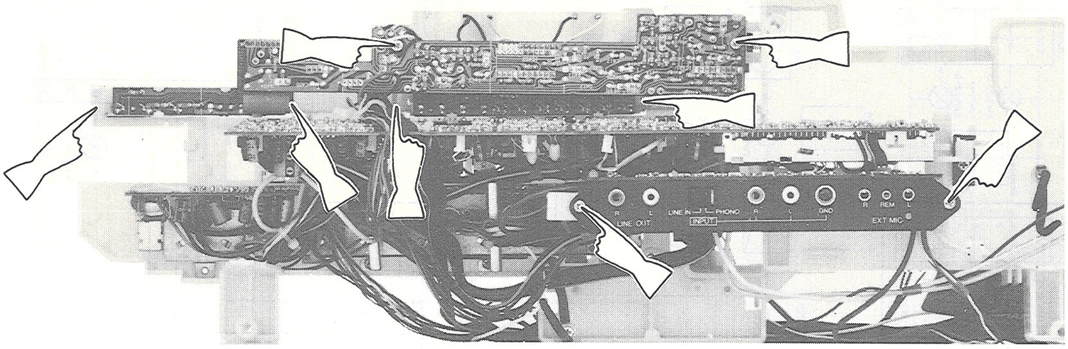


Figure 7-1

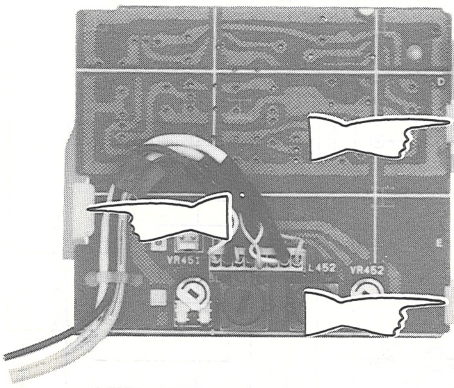


Figure 7-2

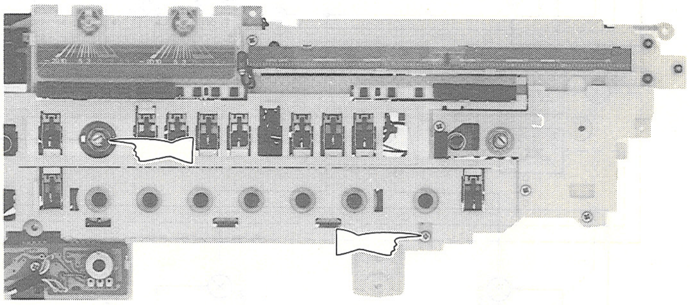


Figure 7-3

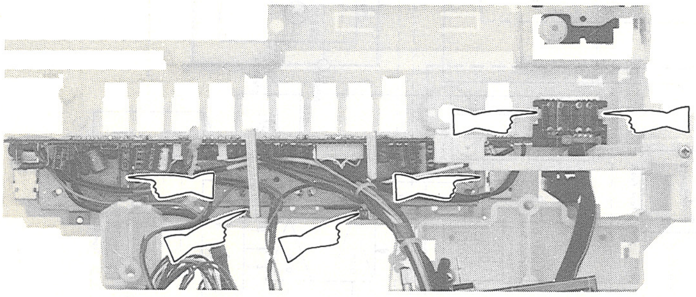


Figure 7-4

- **Removal of Record/Playback P.W.B.**

1. Remove two screws at the APLD P.W.B. and four tabs at the indicator P.W.B. holder. See Fig. 7-1.
2. Remove three tabs at the bias current P.W.B. See Fig. 7-2.
3. Remove two screws at the input/output terminal board. See Fig. 7-1.
4. Remove one nut and one screw at the record/playback P.W.B. See Fig. 7-3.
5. Withdraw the record/playback P.W.B., and remove two screws and two tabs at the angle supporting the volume P.W.B. See Fig. 7-4.
6. Remove two tabs at the APLD switch P.W.B. Thus it is possible to detach the record/playback P.W.B. and volume P.W.B. from the main frame. See Fig. 7-4.

- **Removal of Power P.W.B.**

1. Remove four screws at the power transformer and two screws at the AC socket. Then detach the power P.W.B. See Fig. 7-5.

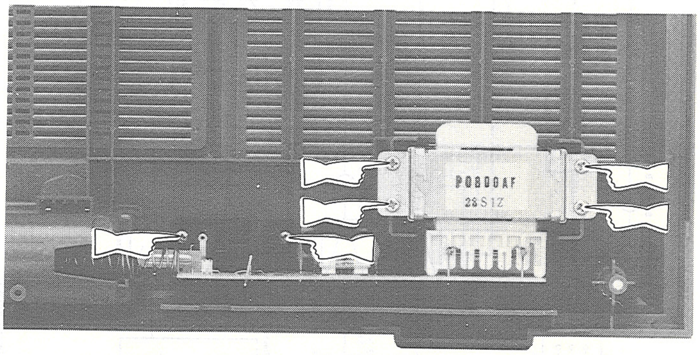
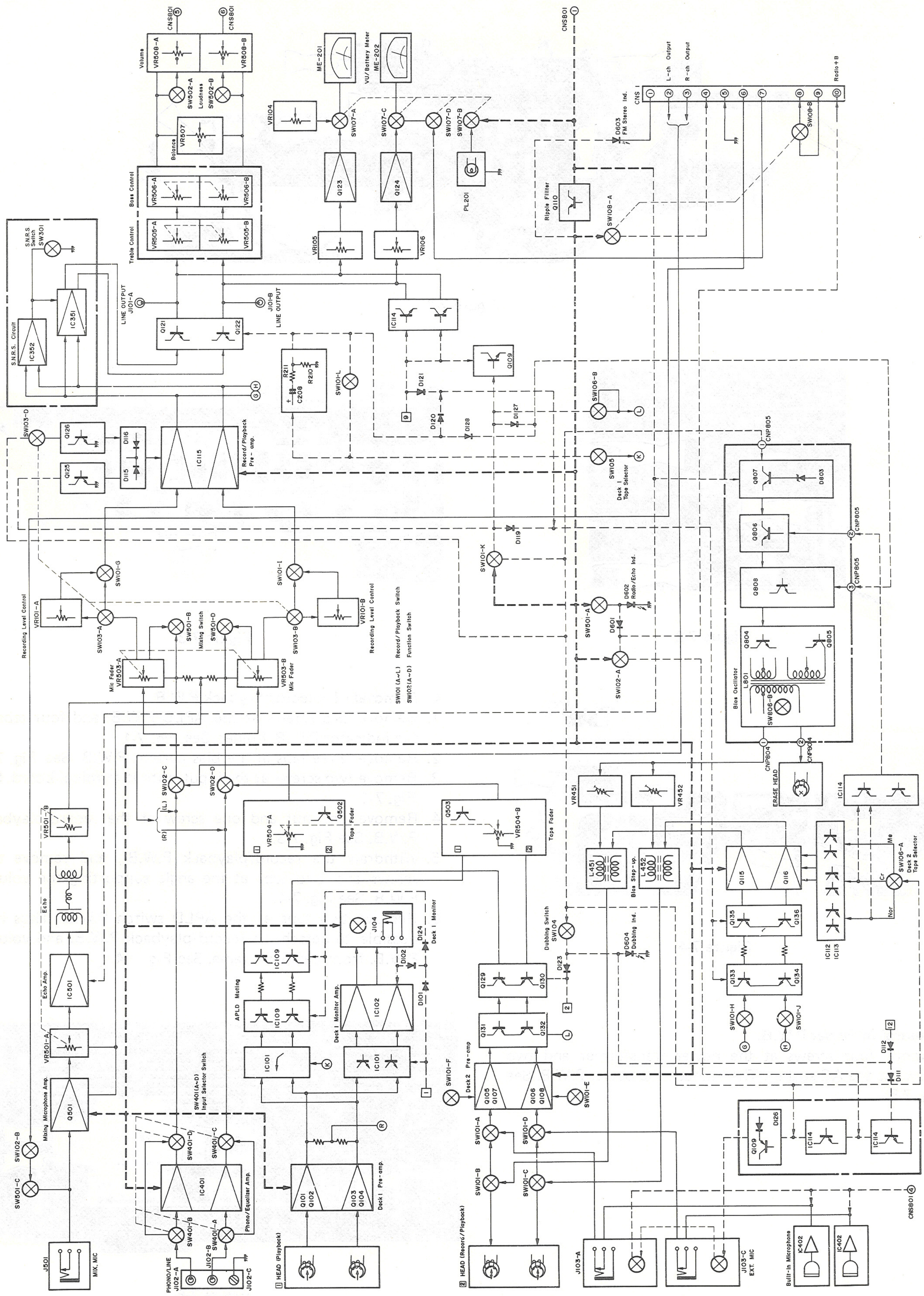


Figure 7-5



MIX. MIC
J501
SW501-C
SW102-B
Q501
Mixing Microphone Amp.
VR501-A
IC501
Echo Amp.
Echo
VR501-B
PHONO/LINE
J102-A
J102-B
J102-C
SW401-B
SW401-A
IC401
Phono/Equalizer Amp.
SW401-D
SW401-C
SW401(A~D) Input Selector Switch
1 HEAD (Playback)
Q101 Q102
Q103 Q104
Deck 1 Pre-amp.
IC101
IC109
APLD Muting
IC102
Deck 1 Monitor Amp.
J104
D124 Deck 1 Monitor
D101
D102
VR504-A
VR504-B
Q502
Q503
Tape Fader
SW102-C
SW102-D
(L)
(R)
VR503-A
VR503-B
Mic Fader
SW501-B
SW501-D
Mixing Switch
SW103-A
SW103-B
VR101-A
VR101-B
Recording Level Control
SW101-G
SW101-I
SW101 (A~L) Record/Playback Switch
SW102(A~D) Function Switch
SW103-D
Q125
Q126
D115
D116
IC115
Record/Playback Pre-amp.
S.N.R.S. Circuit
IC352
IC351
S.N.R.S. Switch
SW301
Q121
Q122
LINE OUTPUT
J101-A
J101-B
Treble Control
VR505-A
VR505-B
Bass Control
VR506-A
VR506-B
Balance
VR507
Loudness
SW502-A
SW502-B
Volume
VR508-A
VR508-B
CNS801 5
CNS801 6
CNS801 1
C208
R211
R210
SW101-L
D120
D121
D127
D128
9
IC114
Q109
D119
SW101-K
VR105
VR106
Q123
Q124
VR104
SW107-A
SW107-C
SW107-D
SW107-B
ME-201
ME-202
VU/Battery Meter
PL201
Ripple Filter
Q110
SW108-A
D603 FM Stereo Ind.
CNS 1
L-ch Output
R-ch Output
Radio +B
SW108-B
SW106-B
SW105
Deck 1 Tape Selector
CNP805
Q807
D803
Q806
Q808
Q804
Q805
L801
Bias Oscillator
SW806-B
CNP804
ERASE HEAD
SW501-A
D602 Radio/Echo Ind.
D601
SW102-A
VR451
VR452
L451
L452
Bias Step-up
Dubbing Switch
SW104
D604 Dubbing Ind.
D123
Q129
Q130
Q131
Q132
2 HEAD (Record/Playback)
SW101-B
SW101-C
SW101-A
SW101-D
SW101-F
SW101-E
Q105 Q107
Q106 Q108
Deck 2 Pre-amp
J103-A
J103-C EXT. MIC
Built-in Microphone
IC402
CNS801 4
Q115
Q116
Q135
Q136
Q133
Q134
SW101-H
SW101-J
IC112
IC113
SW106-A Deck 2 Tape Selector
Me
Cr
Nor
D112
D111
D126
G
H
K
L
R
1
2

Figure 8 BLOCK DIAGRAM

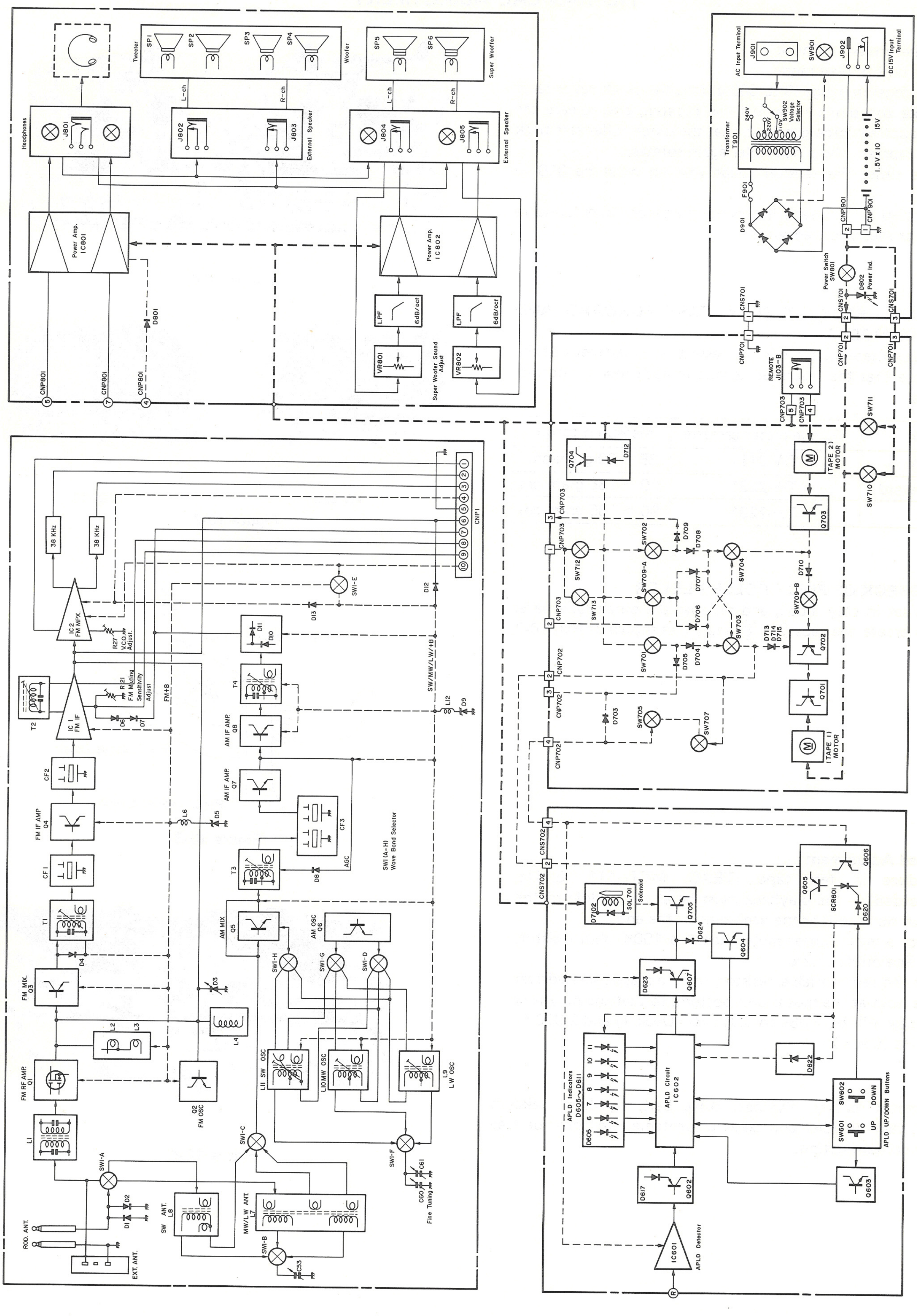

Headphones
J801
Tweeter
SP1
SP2
SP3
SP4
Woofer
SP5
SP6
Super Wooffer
L-ch
R-ch
J802
J803
External Speaker
J804
J805
External Speaker
Power Amp. IC801
Power Amp. IC802
LPF
6dB/oct
VR801
VR802
Super Woofer Sound Adjust
D801
CNP801
AC Input Terminal
J901
SW901
J902
DC15V Input Terminal
Transformer T901
240V
220V
110V
SW902 Voltage Selector
1.5V x 10
15V
F901
D901
CNP901
Power Switch SW801
D802 Power Ind.
CNS701
CNP701
REMOTE J103-B
CNP703
SW711
SW710
(TAPE 2) MOTOR
Q703
Q704
D712
SW712
SW713
SW702
SW709-A
SW701
D709
D708
D707
D706
D705
D704
D703
SW704
SW703
D710
SW709-B
D713 D714 D715
Q702
Q701
SW705
SW707
(TAPE 1) MOTOR
CNP702
CNS702
D702
SOL701 Solenoid
Q705
D624
Q604
D623
Q607
Q605
SCR601
Q606
D620
D622
APLD Indicators D605~D611
D605
APLD Circuit IC602
SW601
SW602
UP
DOWN
APLD UP/DOWN Buttons
Q603
D617
Q602
IC601
APLD Detector
R
CNP1
38 KHz
IC2 FM MPX.
R27 V.C.O. Adjust
IC1 FM IF
R21 FM Muting Sensitivity Adjust
FM+B
T2
D6
D7
CF2
CF1
FM IF AMP Q4
L6
D5
T1
D4
FM MIX. Q3
D3
L2
L3
L4
FM RF AMP Q1
Q2 FM OSC
L1
SW1-A
D1
D2
ROD. ANT.
EXT. ANT.
SW ANT. L8
MW/LW ANT. L7
SW1-B
C53
SW1-C
L11 SW OSC
L10 MW OSC
L9 LW OSC
SW1-F
C60
C61
Fine Tuning
AM MIX Q5
AM OSC Q6
SW1-H
SW1-G
SW1-D
T3
D8
AGC
CF3
AM IF AMP Q7
AM IF AMP Q8
T4
D10
D11
D13
SW1-E
D12
SW/MW/LW/+B
L12
D9
SW1 (A-H) Wave Band Selector

Figure 9 BLOCK DIAGRAM

MECHANICAL ADJUSTMENT

Pinch Roller Pressure Check

1) Set the unit in play mode.
2) Push a tension gauge (0 to 500 g) into the pinch roller lever to make the pinch roller off the capstan, and release the gauge applied force gently so that the pinch roller sets back to the capstan (the pinch roller again rotates).
   At the time, the tension gauge reading must be 300 to 380 g.
3) If the step 2) is unsatisfied, bend the pinch roller pressure spring properly, or renew it.

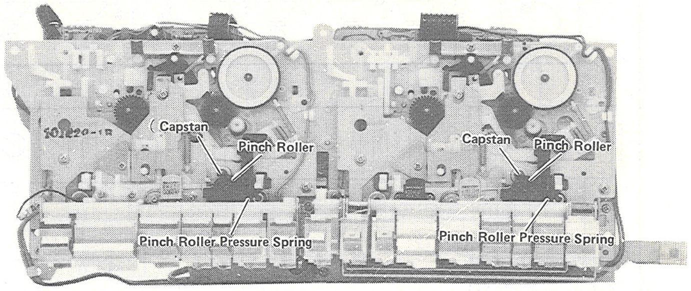
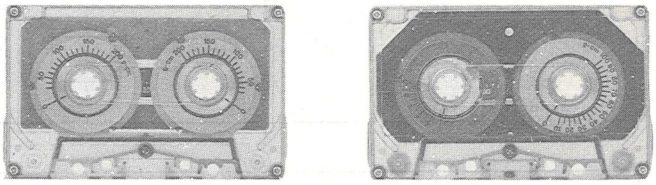


Figure 10-1

■ TORQUE CHECK AT PLAY, FAST FORWARD AND REWIND MODES

Put a torque meter cassette in the cassette compartment of the set, and see that the measured torque in each mode is normal as follows:

Mode	Torque meter cassette	Measured torque
Playback	TW-2111	35 ~ 60 gram-cm
Fast-forward	TW-2231	90 ~ 135 gram-cm
Rewind	TW-2231	90 ~ 135 gram-cm



TW-2231 TW-2111

Figure 10-2

■ GAP CHECK OF PINCH ROLLER LEVER

Place the set in play mode, and see that the pinch roller lever moves to create the gaps Ⓐ, Ⓑ and Ⓒ as shown in Fig. 10-3.

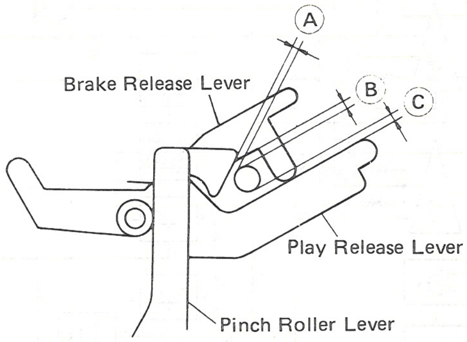


Figure 10-3

Tape Speed Adjustment

1) Reproduce a test tape (TEAC, MTT–111, 3 kHz-prerecorded) – the playback must be at the middle of the tape but not at either the beginning or the end.
2) Connect a wow/flutter meter, across a 100K ohm resistor, to the line output socket.
3) Adjust the semi-variable resistor, using a plastic screwdriver via the hole at the motor unit bottom, so that the playback frequency will be 2,985 to 3,015 Hz (Deck 1) and 2,970 to 3,000 Hz (Deck 2).

Note:
The motor pulley, flywheel drive belt, flywheel, take-up pulley, take-up idler and take-up turntable, etc. must be free of any contamination.

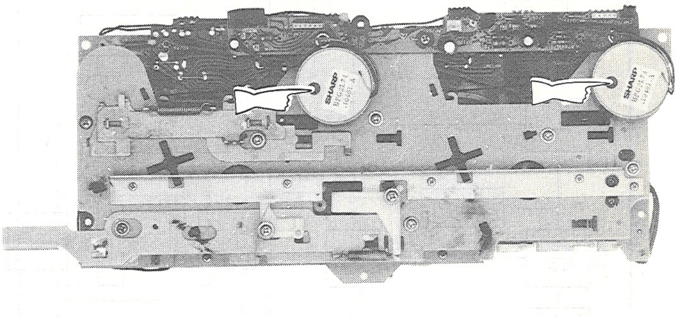


Figure 10-4

ELECTRICAL ADJUSTMENT

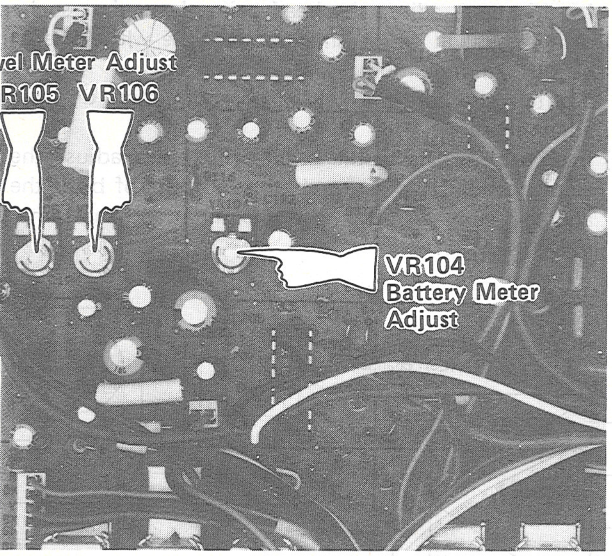

Level Meter Adjust
VR105 VR106
VR104
Battery Meter
Adjust

Figure 11-1

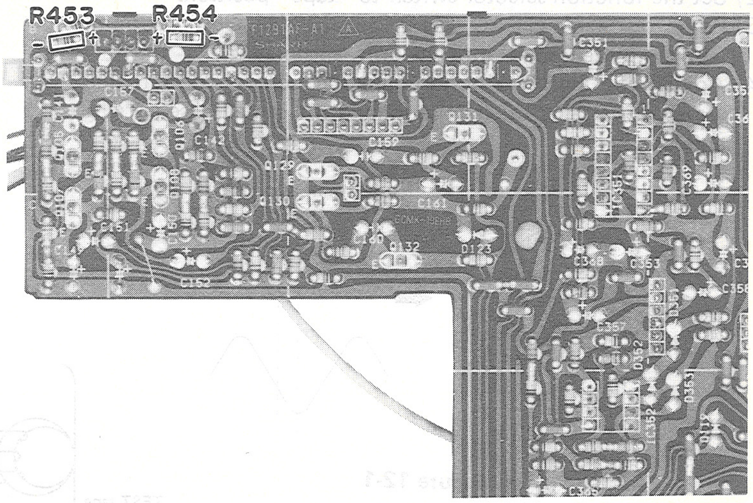


Figure 11-2

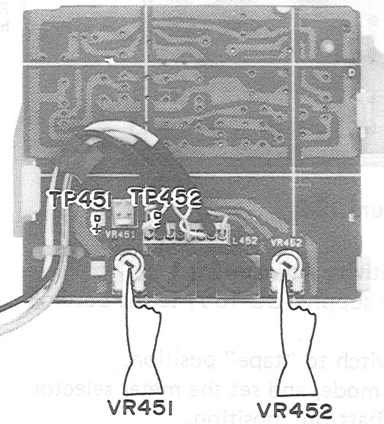

TP451 TP452
VR451
VR452
Bias Current

Figure 11-3

Record Amplifier Bias Current/Bias Oscillator Frequency Adjustment

1) Connect a VTVM to both ends of the resistor (R453 or R454) on the record/playback amp. printed wiring board.
2) Set the function selector switch to "tape", the deck-2 tape selector switch to "Normal" and the best interference canceller switch to "A" position.
3) Connect an oscilloscope (the vertical input) to the output of VTVM, and an audio generator to the oscilloscope (the horizontal input).
4) Place the unit in record mode, and check that the bias oscillator frequency, on the oscilloscope Lissajou's figure, is 76 to 84 kHz. Next by setting the beat interference canceller switch to "B" and "C" positions, the range of that frequency must be within −1.5±1.0 kHz and −6±1.5 kHz in respective positions.
5) Adjust the bias current adjust semi-variable resistor (VR451 or VR452) so that the VTVM reads 4.4 mV.

Erase Current Check

1) Connect the VTVM between the test point TP451 and TP452.
2) Set the function selector switch to "tape", the deck-2 tape selector switch to "Metal" positions.
3) Place the unit in record mode, and check the at the VTVM is reading 135 to 185 mV.

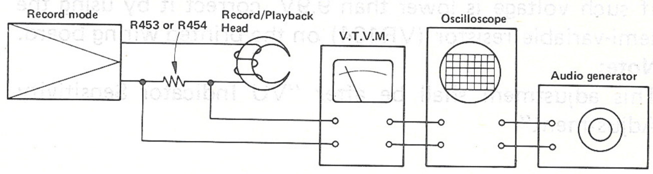

Record mode
R453 or R454
Record/Playback Head
V.T.V.M.
Oscilloscope
Audio generator

Figure 11-4

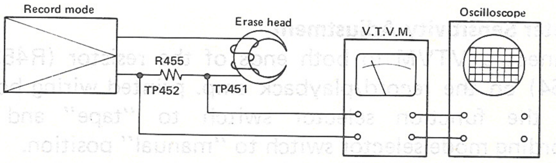

Record mode
Erase head
R455
TP452
TP451
V.T.V.M.
Oscilloscope

Figure 11-5

Record/Playback Head Azimuth Adjustment

1) Connect a VTVM, across a 50K ohm resistor, to the line output socket.
2) Set the function selector switch to "tape" position.
3) Put a test tape (TEAC, MTT-114, 10 kHz, 250 pWb/mm, −10 dB prerecorded) into the unit, and play it.
4) Adjust the head azimuth adjusting screw so that sine waveform attains the maximum and the same phase in right and left.

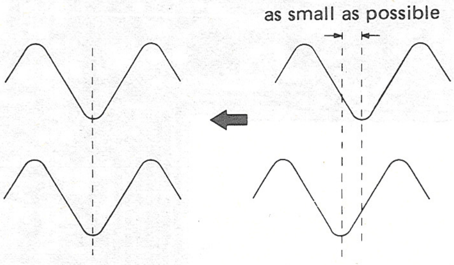

as small as possible

Figure 12-1

Note:
For some heads, there may be a phase difference between right and left channels when the output is made maximum. In this case, adjust the head azimuth so that such phase difference will be as small as possible while keeping the output still maximum.
Tighten the screw in the proper direction by using the adjusting screw.

5) Even without using the oscilloscope, also adjust the head azimuth adjusting screw so that outputs of both the right and left channels attain the maximum and the same phase in right and left.

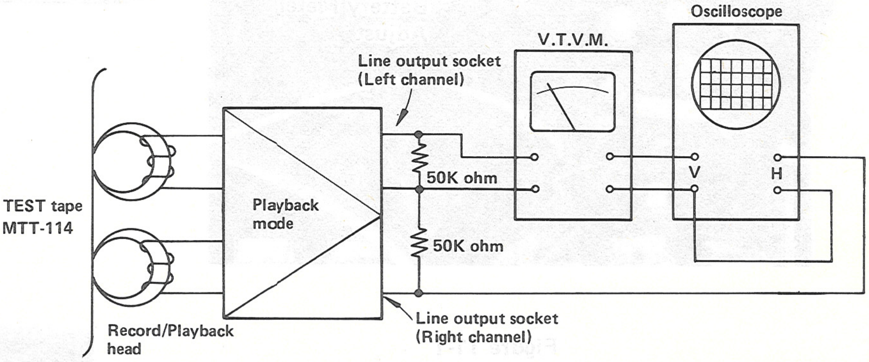

Oscilloscope
V.T.V.M.
Line output socket
(Left channel)
50K ohm
V
H
TEST tape
MTT-114
Playback
mode
50K ohm
Line output socket
(Right channel)
Record/Playback
head

Figure 12-3

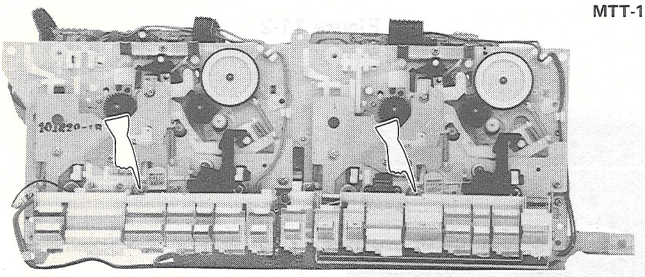


Figure 12-2

Battery Condition Meter Sensitivity Adjustment

1) Connect a regulated power supply (DC 15V) to the battery terminal.
2) Set the function selector switch to "tape" position.
3) Place the unit in playback mode, and set the meter selector Dial Light switch to "tune/batt/on" position.
4) Reduce this supply voltage, slowly, until the voltage, when the pointer on the battery meter in the "0" position, must remain at 10.0 to 10.8V and the Meter illumination lamp must light, then.
5) If such voltage is lower than 9.9V, correct it by using the semi-variable resistor (VR104) on the printed wiring board.
Note:
This adjustment shall be after "VU Indicator Sensitivity Adjustment".

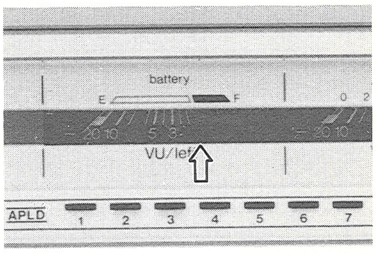

battery
E
F
20 10 5 3
20 10
0 2
VU/left
APLD
1
2
3
4
5
6
7

Figure 12-4

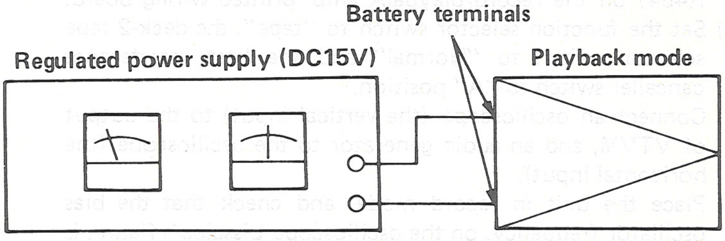

Battery terminals
Regulated power supply (DC15V)
Playback mode

Figure 12-5

VU Meter Sensitivity Adjustment

1) Connect a VTVM to both ends of the resistor (R453 or R454) on the record/playback amp. printed wiring board.
2) Set the function selector switch to "tape" and the recording mode selector switch to "manual" position.
3) Short pins ④ and ⑥ at the secondary side of the bias oscillation coil (L801) to stop the oscillation.
4) Connect an audio generator (1 kHz) to the external microphone input socket, line/phono input socket, and mixing microphone socket in order, and check their recorded outputs according the following step 5) and 6).
Caution:
For the input to the external microphone input socket, it must be applied across the right and left channels.
5) Adjust the recording control knob so that the VTVM indicates 0.4 mV.
6) Adjust the meter sensitivity adjusting semi-variable resistor (VR105 or VR106) so that the pointer of the level meter may be in the "0" position.

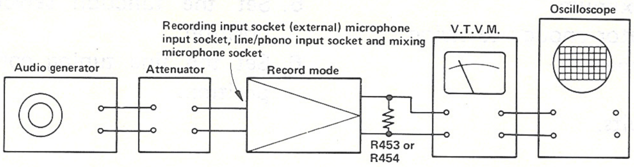

Oscilloscope
Recording input socket (external) microphone input socket, line/phono input socket and mixing microphone socket
V.T.V.M.
Audio generator
Attenuator
Record mode
R453 or R454

Figure 13-1

Record Amplifier Sensitivity Check

1) Connect a VTVM to both ends of the resistor (R453 or R454) on the record/playback amp. printed wiring board.
2) Short pins ④ and ⑥ at the secondary side of the bias oscillation coil (L801) to stop the oscillation.
3) Set the function selector switch to "tape" and the deck-2 tape selector swtich to "normal" position.
4) Place the unit in record mode, and check if the VTVM reading becomes 0.2mV with the respective inputs tabulated below — the input oscillation frequency is set to 1 kHz and 0 dB = 1 V is assumed.

Sockets	Inputs
External microphone input	0.09mV ~ 0.178mV (−78 ±3dB)
Mixing microphone	0.9mV ~ 1.8mV (−58 ±3dB)
Line input	0.06V ~ 0.13V (−21 ±3dB)
Phono input	1.0mV ~ 2.0mV (−57 ±3dB)

Note:
For the input to the external microphone input socket, it must be applied across the right and left channels.

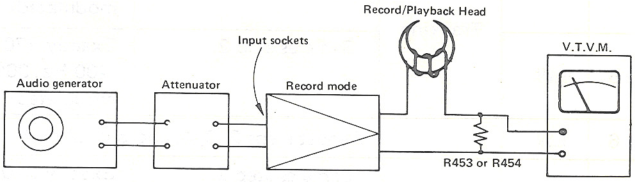
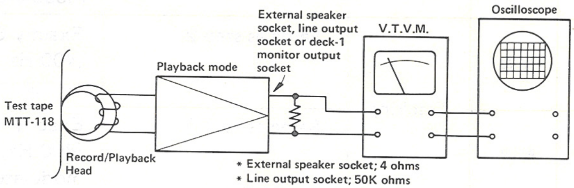

Record/Playback Head
Input sockets
V.T.V.M.
Audio generator
Attenuator
Record mode
R453 or R454

Figure 13-2

Playback Amplifier Sensitivity Check

1) Connect a VTVM, across a 4 ohm resistor, to the external speaker socket.
2) Set the function selector switch to "tape", the treble/bass tone control knob to "center" and the volume control knob to "10/max." position.
3) Reproduce a test tape (TEAC, MTT-118, 1 kHz, 250 pWb/mm, −10 dB prerecorded).
4) At the time, the VTVM must read approx. 2.0V.
5) Then connect the VTVM to the line output socket and the deck-1 monitor output socket in order, then the VTVM reading must be approx. 200mV for the former, and approx. 10mV for the latter.

Note:
For measuring the output from the deck-1 monitor output socket, the test tape be played through the use of the deck-1.


External speaker socket, line output socket or deck-1 monitor output socket
V.T.V.M.
Oscilloscope
Playback mode
Test tape MTT-118
Record/Playback Head

* External speaker socket; 4 ohms
* Line output socket; 50K ohms
* Deck-1 monitor output socket; 8 ohms

Figure 13-3

Record/Playback Sensitivity Check

1) Connect a VTVM, across a 4 ohm resistor, to the external main speaker socket.
2) Set the function selector switch to "tape", the deck-2 tape selector switch to "normal", the treble/bass tone control knob to "center", the volume control knob to "10/max.", the recording level control knob to "max." and the recording mode selector switch to "manual", position.
3) Connect an audio generator to the external microphone input sockets of both channels, and apply a 1 kHz signal of output level −78 dB (0.126 mV, 0 dB = 1 V) to these sockets at a time.
4) Record this signal on a normal tape (TEAC, MTT-502).
5) Reproduce this recorded tape, then the VTVM must read approx. 1.5 V.

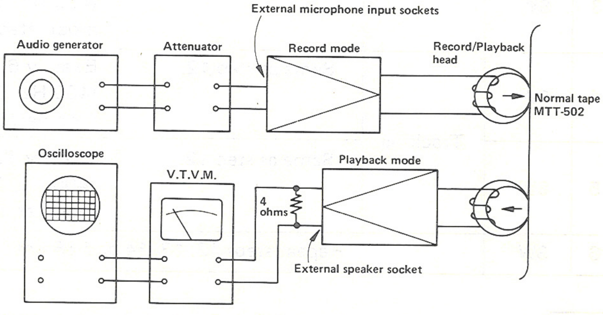

External microphone input sockets
Audio generator
Attenuator
Record mode
Record/Playback head
Normal tape MTT-502
Oscilloscope
V.T.V.M.
Playback mode
4 ohms
External speaker socket

Figure 13-4

GENERAL ALIGNMENT INSTRUCTION

Should it become necessary at any time to check the alignment of this receiver, proceed as follows:

1. Set the volume control (VR508) to maximum.
2. Attenuate the signals from the generator enough to swing the most sensitive range of the output meter.
3. Use a non-metallic alignment tool.
4. Repeat adjustments to insure good results.
5. Set the function selector switch (SW102) to "radio" position.
6. Set the fine tuning control (C60) to mechanical center position.

AM IF/RF ALIGNMENT

(Refer to Figure 15-9)

STEP	BAND	TEST STAGE	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
			CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	MW	IF	Refer to Figure 15-1.	Exactly 455 kHz: (GF-777H) Exactly 468 kHz: (GF-777E)	High end of dial. (minimum capacity)	Adjust for best "IF" curve	Adjust the AM IF transformers. (T3, T4)
2	LW	Band Coverage	Refer to Figure 15-2.	Exactly 145 kHz. (400 Hz, 30%, AM modulated)	Low end of dial. (maximum capacity).	Adjust for maximum output.	Adjust the LW oscillation coil (L9).
3	LW		Same as step 2.	Exactly 295 kHz. (400 Hz, 30%, AM modulated)	High end of dial. (minimum capacity).	Same as step 2.	Adjust the LW oscillation trimmer (C71).
4	LW	Tracking	Same as step 2.	Exactly 170 kHz. (400 Hz, 30%, AM modulated)	170 kHz.	Same as step 2.	Adjust the LW bar antenna coil (L7). See Note A .
5	LW		Same as step 2.	Exactly 270 kHz. (400 Hz, 30%, AM modulated)	270 kHz	Same as step 2.	Adjust the LW antenna trimmer (C58).
6	LW	Repeat steps 2, 3, 4, and 5 until no further improvement can be made.					
7	MW	Band Coverage	Same as step 2.	Exactly 510 kHz, (400 Hz, 30%, AM modulated)	Low end of dial. (maximum capacity).	Same as step 2.	Adjust the MW oscillation coil (L10).
8	MW		Same as step 2.	Exactly 1650 kHz. (400 Hz, 30%, AM modulated)	High end of dial. (minimum capacity).	Same as step 2.	Adjust the MW oscillation trimmer (C69).
9	MW	Tracking	Same as step 2.	Exactly 600 kHz. (400 Hz, 30%, AM modulated).	600 kHz.	Same as step 2.	Adjust the MW bar antenna coil (L7). See Note A .
10	MW		Same as step 2.	Exactly 1400 kHz. (400 Hz, 30%, AM modulated)	1400 kHz.	Same as step 2.	Adjust the MW antenna trimmer (C56).
11	MW	Repeat steps 6, 7, 8 and 9 until no further improvement can be made.					
12	SW	Band Coverage	Refer to Figure 15-3.	Exactly 5.85 MHz. (400 Hz, 30%, AM modulated)	Low end of dial. (maximum capacity)	Same as step 2.	Adjust the SW oscillation coil (L11).
13	SW		Same as step 12.	Exactly 18.5 MHz. (400 Hz, 30%, AM modulated)	High end of dial. (minimum capacity)	Same as step 2.	Adjust the SW oscillation trimmer (C67).
14	SW	Tracking	Same as step 12.	Exactly 6.5 MHz. (400 Hz, 30%, AM modulated)	6.5 MHz.	Same as step 2.	Adjust the SW antenna coil (L8).
15	SW		Same as step 12.	Exactly 16 MHz. (400 Hz, 30%, AM modulated)	16 MHz.	Same as step 2.	Adjust the SW antenna trimmer (C54).
16	SW	Repeat steps 12, 13, 14 and 15 until no further improvement can be made.					

Note A Check the alignment of the receiver antenna coil by bringing a piece of ferrite (such as a coil slug) near the antenna loop stick, then a piece of brass. If ferrite increases output, loop requires more inductance. If brass increases output, loop requires less inductance. Change loop inductance by sliding the bobbin toward the center of ferrite core to increase inductance, or away to decrease inductance.

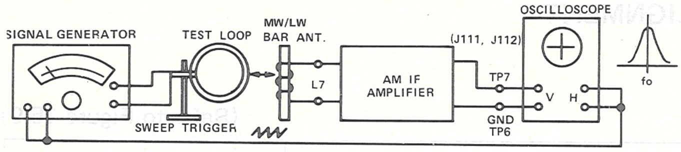

SIGNAL GENERATOR
TEST LOOP
MW/LW BAR ANT.
L7
SWEEP TRIGGER
AM IF AMPLIFIER
(J111, J112)
TP7
GND TP6
OSCILLOSCOPE
V
H
fo

Figure 15-1

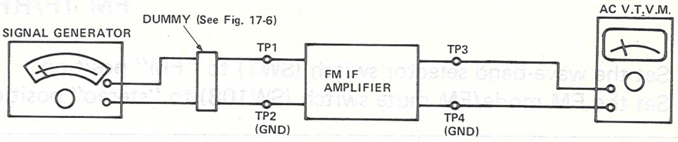

SIGNAL GENERATOR
DUMMY (See Fig. 17-6)
TP1
TP2 (GND)
FM IF AMPLIFIER
TP3
TP4 (GND)
AC V.T.V.M.

Figure 15-5

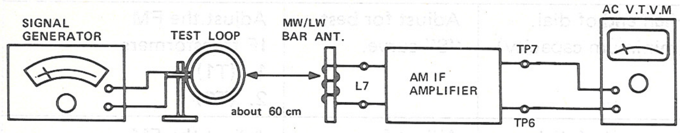

SIGNAL GENERATOR
TEST LOOP
about 60 cm
MW/LW BAR ANT.
L7
AM IF AMPLIFIER
TP7
TP6
AC V.T.V.M

Figure 15-2

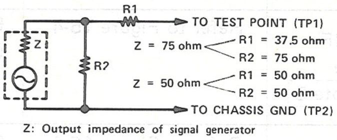

R1
R2
Z
TO TEST POINT (TP1)
Z = 75 ohm
R1 = 37.5 ohm
R2 = 75 ohm
Z = 50 ohm
R1 = 50 ohm
R2 = 50 ohm
TO CHASSIS GND (TP2)
Z: Output impedance of signal generator

Figure 15-6 FM DUMMY

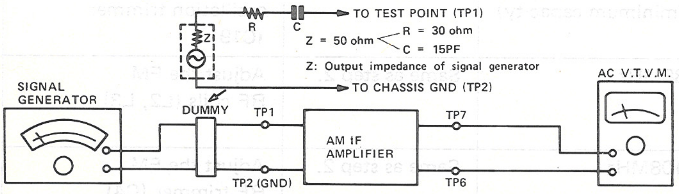

R
C
TO TEST POINT (TP1)
Z
Z = 50 ohm
R = 30 ohm
C = 15PF
Z: Output impedance of signal generator
TO CHASSIS GND (TP2)
SIGNAL GENERATOR
DUMMY
TP1
AM IF AMPLIFIER
TP7
TP2 (GND)
TP6
AC V.T.V.M.

Figure 15-3

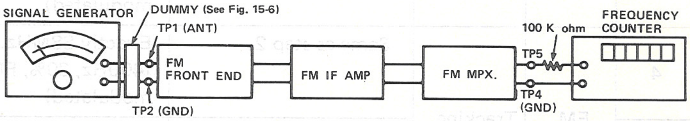

SIGNAL GENERATOR
DUMMY (See Fig. 15-6)
TP1 (ANT)
TP2 (GND)
FM FRONT END
FM IF AMP
FM MPX.
100 K ohm
TP5
TP4 (GND)
FREQUENCY COUNTER

Figure 15-7

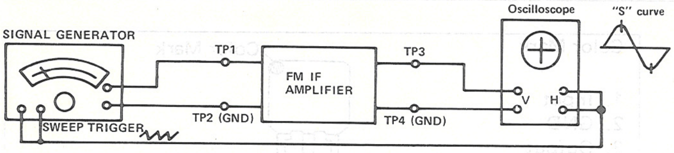

SIGNAL GENERATOR
TP1
TP2 (GND)
SWEEP TRIGGER
FM IF AMPLIFIER
TP3
TP4 (GND)
Oscilloscope
V
H
"S" curve

Figure 15-4

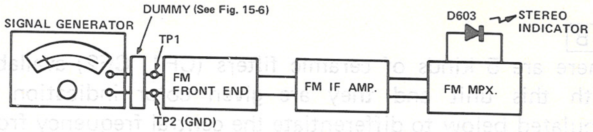

SIGNAL GENERATOR
DUMMY (See Fig. 15-6)
TP1
TP2 (GND)
FM FRONT END
FM IF AMP.
FM MPX.
D603
STEREO INDICATOR

Figure 15-8

THE INSTRUCTION OF FREQUENCY ADJUSTMENT

In order to comply with FTZ rule: Nr. 358/1970, please fix the low end of dial frequency (87.5MHz) and the high end of dial frequency (107.9MHz) on FM band, by adjusting oscillation coils (L4) and oscillation trimmer (C19), respectively, as illustrated in Figure 15-9.

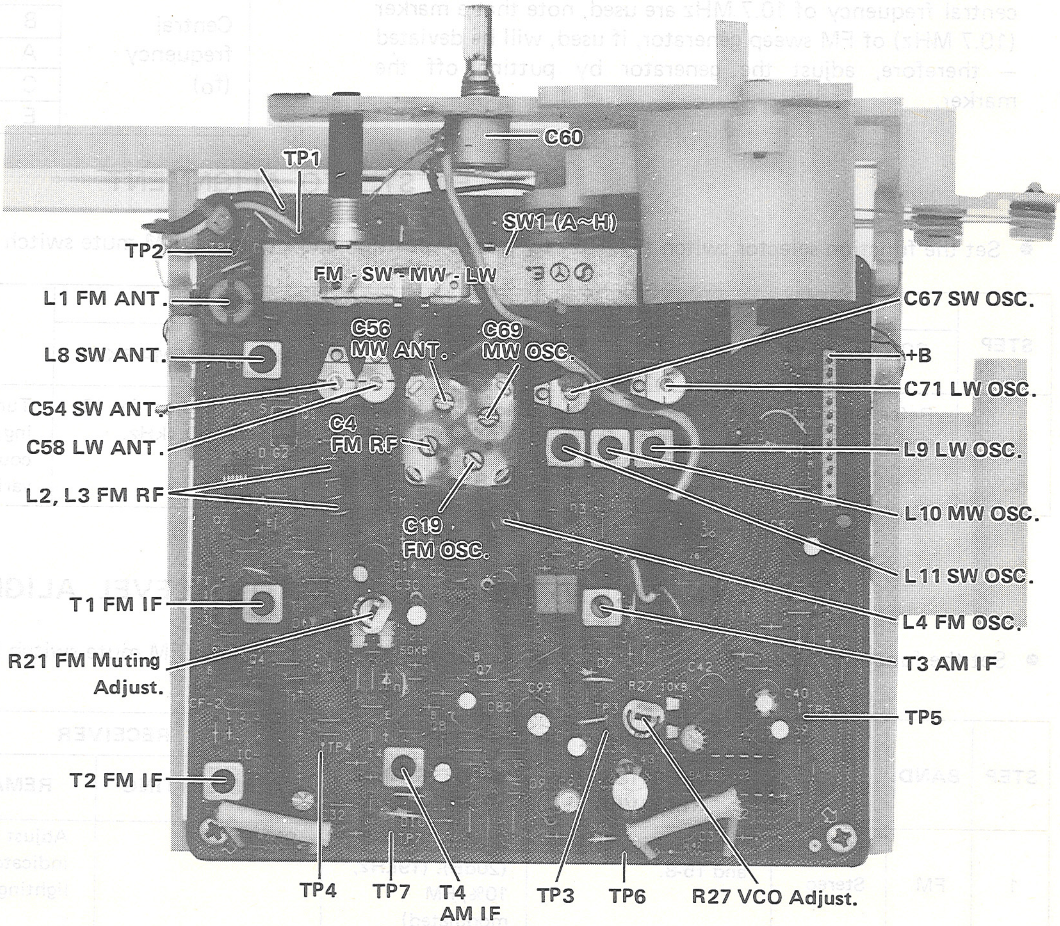

C60
TP1
SW1 (A~H)
TP2
FM - SW - MW - LW
L1 FM ANT.
C67 SW OSC.
L8 SW ANT.
C56 MW ANT.
C69 MW OSC.
+B
C54 SW ANT.
C71 LW OSC.
C58 LW ANT.
C4 FM RF
L9 LW OSC.
L2, L3 FM RF
L10 MW OSC.
C19 FM OSC.
L11 SW OSC.
T1 FM IF
L4 FM OSC.
R21 FM Muting Adjust.
T3 AM IF
TP5
T2 FM IF
TP4
TP7
T4 AM IF
TP3
TP6
R27 VCO Adjust.

Figure 15-9

FM IF/RF ALIGNMENT

- Set the wave-band selector switch (SW1) to "FM" position.
- Set the FM mode/FM mute switch (SW108) to "stereo" position.

(Refer to Figure 15-9)

STEP	BAND	TEST STAGE	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
			CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	FM	IF See Note B	Refer to Figure 15-4.	Exactly 10.7MHz. (Unmodulated)	High end of dial. (minimum capacity)	Adjust for best "S" curve.	Adjust the FM IF transformers 1. (T1) 2. (T2)
2	FM	Band Coverage	Refer to Figure 15-5 and 15-6.	Exactly 87.1MHz. (400Hz, 30%, FM modulated)	Low end of dial. (maximum capacity)	Adjust for maximum output.	Adjust the FM oscillation coils (L4).
3			Same as step 2.	Exactly 109MHz. (400Hz, 30%, FM modulated)	High end of dial. (minimum capacity)	Same as step 2.	Adjust the FM oscillation trimmer (C19).
4	FM	Tracking	Same as step 2.	Exactly 88MHz. (400Hz, 30%, FM modulated)	88MHz.	Same as step 2.	Adjust the FM RF coils (L2, L3).
5			Same as step 2.	Exactly 108MHz. (400Hz, 30%, FM modulated)	108MHz.	Same as step 2.	Adjust the FM RF trimmer (C4).
6	FM	Repeat steps 2, 3, 4 and 5 until no further improvement can be made.					

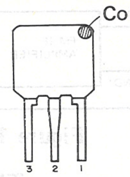
Note B

There are 5 kinds of ceramic filters (CF1, CF2) available with this unit and they are given color indication as tabulated below to differentiate the central frequency from one to another among them. When using them, be sure to make the two of the same type a pair.

When other ceramic filters than the one (red) having the central frequency of 10.7 MHz are used, note that a marker (10.7 MHz) of FM sweep generator, if used, will be deviated – therefore, adjust the generator by putting off the marker.

Color Mark

1. Input
2. GND
3. Output



Central frequency (f_o)	D	Black:	10.64MHz ±30kHz
	B	Blue:	10.67MHz ±30kHz
	A	Red:	10.70MHz ±30kHz
	C	Orange:	10.73MHz ±30kHz
	E	White:	10.76MHz ±30kHz

FM STEREO ALIGNMENT

- Set the function selector switch (SW102) to "radio" position and FM mode/FM mute switch (SW108) to "stereo/mute" position.

STEP	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
	CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	Refer to Figures 15-6 and 15-7.	Exactly 98MHz (54dB) unmodulated.	98MHz	Adjust for 19 ±0.1kHz.	Turn the FM muting sensitivity adjusting semivariable resistor (R21) fully counterclockwise. Adjust the semi-variable resistor (R27)

FM STEREO INDICATOR LIGHTING LEVEL ALIGNMENT

- Set the function selector switch (SW102) to "radio" position and FM mode/FM mute switch (SW108) to "stereo/mute" position.

STEP	BAND	FM STAGE	SIGNAL GENERATOR		RECEIVER		ADJUSTMENT
			CONNECTION TO RECEIVER	INPUT SIGNAL FREQUENCY	DIAL SETTING	REMARKS	
1	FM	Stereo	Refer to Figures 15-6 and 15-8.	Exactly 98MHz (20dB). (19kHz, 10%, FM modulated)	98MHz	Adjust for the indicator starts lighting.	Adjust the semi-variable resistor (R21).

NOTES ON SCHEMATIC DIAGRAM

Ref. No.	Names of Switch	Switch Position
SW1 (A, B)	Wave Band Selector Switch	FM-SW$_2$-SW$_1$-AM
SW101 (A ~ L)	Record/Playback Switch	Playback-Record
SW102 (A, B)	Function Switch	Tape-Radio-Line in/Phono
SW103 (A ~ D)	Recording Mode Switch	Manual-Auto
SW104 (A)	Dubbing Switch	on-off
SW105 (A, B)	Deck 1 Tape Selector Switch	Metal/CrO$_2$-normal
SW106 (A, B)	Deck 2 Tape Selector Switch	Metal-CrO$_2$-normal
SW107 (A ~ D)	Meter Selector/Dial Light Switch	VU/off-Tune/Batt/on
SW108 (A, B)	FM Mode/FM Muting Switch	Stereo/Mute-Stereo-Mono
SW301	SNRS Switch	on-off
SW401 (A, B)	Input Selector Switch	Line in-Phono
SW501 (A ~ D)	Mixing Switch	Radio Echo/on-on/off-off/off
SW502 (A, B)	Loudness Switch	on-off
SW601	APLD UP Switch	on-off
SW602	APLD DOWN Switch	on-off
SW701	Deck 1 Main Switch Ⓒ	on-off
SW702	Deck 2 Main Switch Ⓒ	on-off
SW703	Deck 1 Main Switch Ⓑ	on-off
SW704	Deck 2 Main Switch Ⓑ	on-off
SW705	Deck 1 APLD Switch	on-off
SW707	Deck 1 APLD Cut Switch	on-off
SW709 (A, B)	Deck Mode Selector Switch	1 ⇋ 2-1 $\overset{or}{\&}$ 2
SW710	Deck 1 Main Switch Ⓐ	on-off
SW711	Deck 2 Main Switch Ⓐ	on-off
SW712	Editing Switch	on-off
SW713	Pause Switch	on-off
SW801	Power Switch	on-off
SW806 (A, B)	Beat Interference Cancelling Switch	A-B-C
SW901	AC/DC Selector Switch	AC-DC
SW902	AC Supply Voltage Selector Switch	110-220-240V

1. Parts marked with "⚠" (▨) are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.
2. To differentiate the units of resistors, such symbols as K and M are used: the symbol K means 1000 ohms and the symbol M means 1 Meg. ohm (1/4 W).
3. Capacitor
   - Unless otherwise specified, any capacitance is expressed in microfarad. P = picofarad
   - The types of capacitors are seen from the symbols ML (mylar capacitor). Styrol (polystyrene film capacitor) and CH (temperature compensating ceramic capacitor).
4. As to electrolytic capacitor, the expression "capacitance/withstand voltage" is used.
5. For voltages at each point of the tuner, they are indicated in parentheses for AM and the values without parenthese are for FM. In any case, the voltage is measured with no signal given, by using VTVM.
6. Attention should be drawn to voltage and the relevant conditions below.
   Audio voltage — in play mode and under no signal condition. Parenthesized parts voltage — under record condition. PHONO circuit voltage — in PHONO made ON position.

SERVICING OF LEG-LESS TYPE RESISTORS AND CAPACITORS

The leg-less type resistors and capacitors are available in either of the tubular and square shapes, and here's their servicing method different from that for the oridnary type of resistors and capacitors.

Removal of the Tubular-Shaped Tip

1. Using a soldering iron, heat the solder at each terminal of the tip to get it absorbed into a braided wire applied thereon. See Fig. 18-1.
2. Holding the tip with a pincette, take it off gently using the soldering iron's heat applied on each terminal of it. See Fig. 18-2.

Removal of the Square-Shaped Tips

1. Using a soldering iron, heat the solder at each terminal of the tip to get it absorbed into a braided wire applied thereon. See Figure 18-3.
2. Holding the tip with a pincette, take it off gently using the soldering iron's heat applied on each terminal of it. See Figure 18-4.

Cautions on removal:

1. When handling the soldering iron, use a proper force and keep a careful manner.
2. When removing the tip, do not use undue force with the pincette.
3. The soldering iron in use should operate on AC 100V (400W); it is best if provided with a thermal control (240° or so).
4. The tip once removed must not be used again.

Attachment of Tubular-Shaped Tip

1. Temporarily solder one terminal of the tip on the copper foil surface. See Fig. 18-5.
2. Holding one end of the tip with a pincette, completely solter both terminals of it one after another. See Fig. 18-6.

Attachment of Square-Shaped Tip

1. Temporarily solder one terminal of the tip on the copper foil surface. See Fig. 18-7.
2. Holding one end of the tip with a pincette, completely solder both terminals of it one after another. See Fig. 18-8.

Cautions on attachment:

1. When soldering the tip terminals, do not touch them directly with the soldering iron. The soldering must be as quick as possible being careful not to hurt the terminals and the body itself.
2. When touching the tip with a pincette, hold its terminal but never its body. See Figs. 18-6 and 18-8.
3. Keep the tip's body in contact with the P.W.B. when soldering.
4. The soldering iron in use should operate on AC 100V (40W); it is best if provided with a thermal control (240°C or so).
5. The soldering amount must be enough but not be outside the specified area.

General Cautions on Handling and Storage

1. Oxidization on the tip's terminals results in poor soldering. Do not handle them with bare hands.
2. For storage, avoid the following places where oxidization will occur and their capacitance or resistance will be deteriorated.
   1) Sulfur or chlorine gas floating places
   2) Directly sunlit places
   3) High temperature/high humidity places

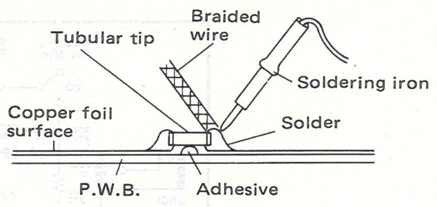


Figure 18-1

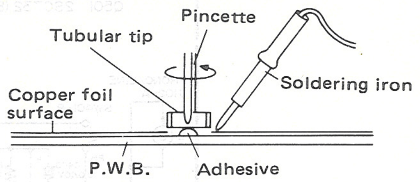


Figure 18-2

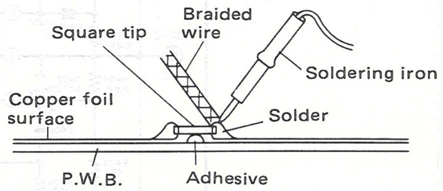


Figure 18-3

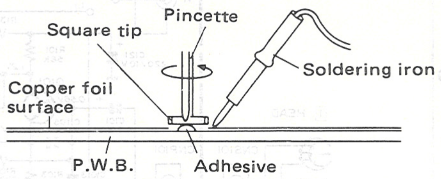


Figure 18-4

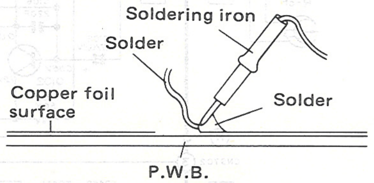


Figure 18-5

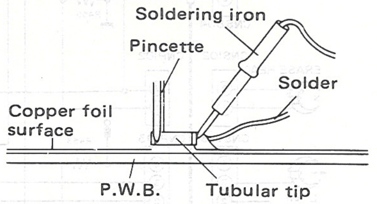


Figure 18-6

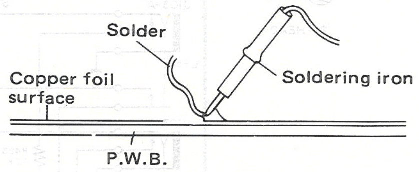


Figure 18-7

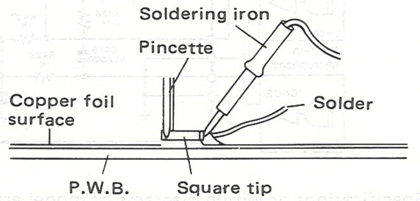
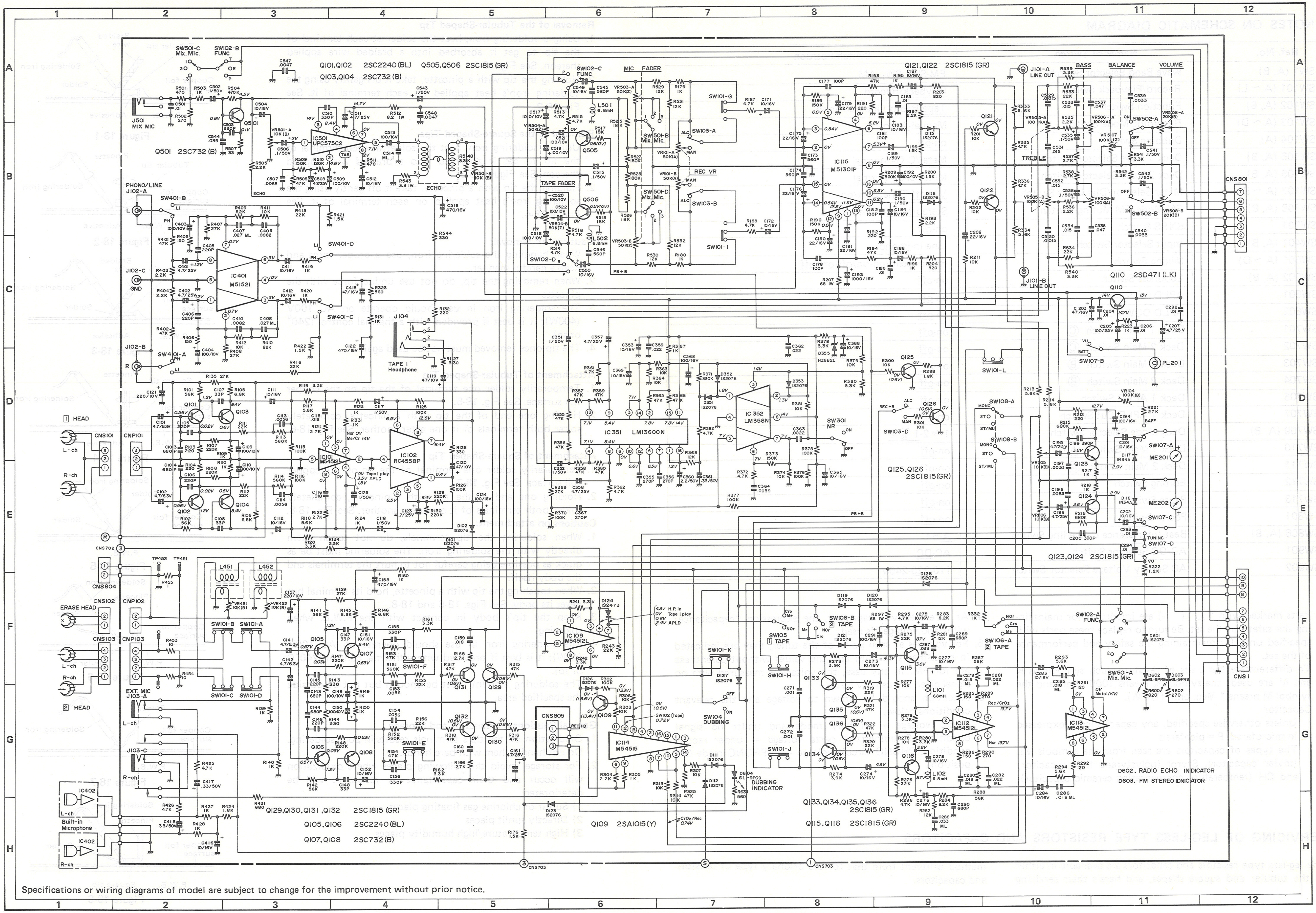


Figure 18-8


Q101,Q102 2SC2240(BL) Q505,Q506 2SC1815(GR)
Q103,Q104 2SC732(B)
Q501 2SC732(B)
Q121,Q122 2SC1815(GR)
Q110 2SD471(LK)
Q125,Q126 2SC1815(GR)
Q123,Q124 2SC1815(GR)
Q129,Q130,Q131,Q132 2SC1815(GR)
Q105,Q106 2SC2240(BL)
Q107,Q108 2SC732(B)
Q109 2SA1015(Y)
Q133,Q134,Q135,Q136 2SC1815(GR)
Q115,Q116 2SC1815(GR)
IC501 UPC575C2
IC401 M51521
IC101 M5451 2L
IC102 RC4558P
IC115 M51301P
IC351 LM13600N
IC352 LM358N
IC109 M54512L
IC114 M54515
IC112 M54512L
IC113 M54512L
IC402
J501 MIX MIC
PHONO/LINE J102-A
J102-C GND
J102-B
J104 TAPE 1 Headphone
J101-A LINE OUT
J101-B LINE OUT
EXT. MIC J103-A
J103-C
Built-in Microphone
1 HEAD
2 HEAD
ERASE HEAD
L-ch
R-ch
MIC FADER
TAPE FADER
REC VR
ECHO
BASS
BALANCE
VOLUME
TREBLE
SW301 NR
SW104 DUBBING
D604 GL-9PG9 DUBBING INDICATOR
D602. RADIO ECHO INDICATOR
D603. FM STEREO INDICATOR
ME201
ME202
PL201
CNS801
CNS1
CNS702
CNS703
CNS804
CNS805
CNS101
CNS102
CNS103
CNP101
CNP102
CNP103
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H

Specifications or wiring diagrams of model are subject to change for the improvement without prior notice.

Figure 19 SCHEMATIC DIAGRAM (1/2)

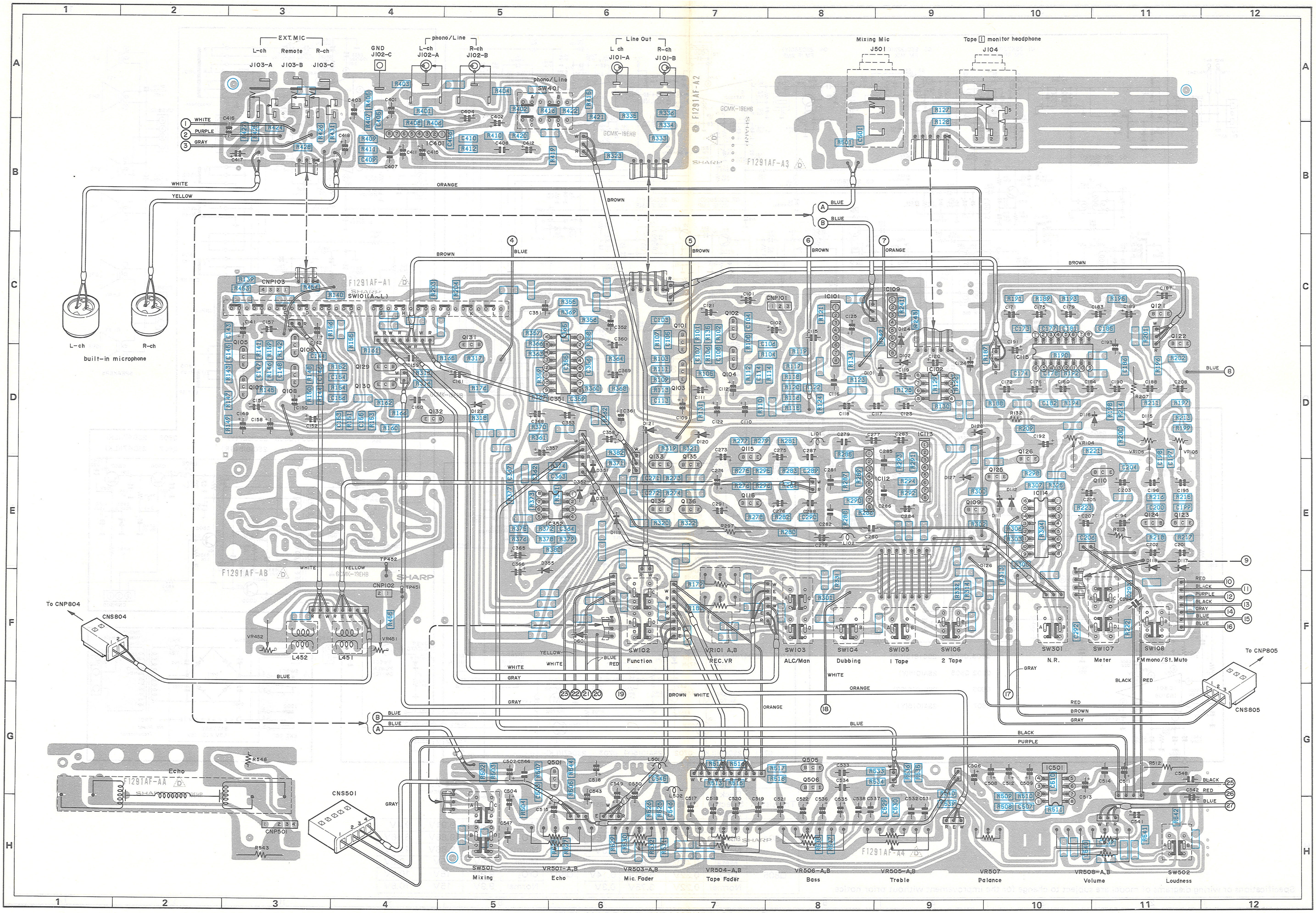
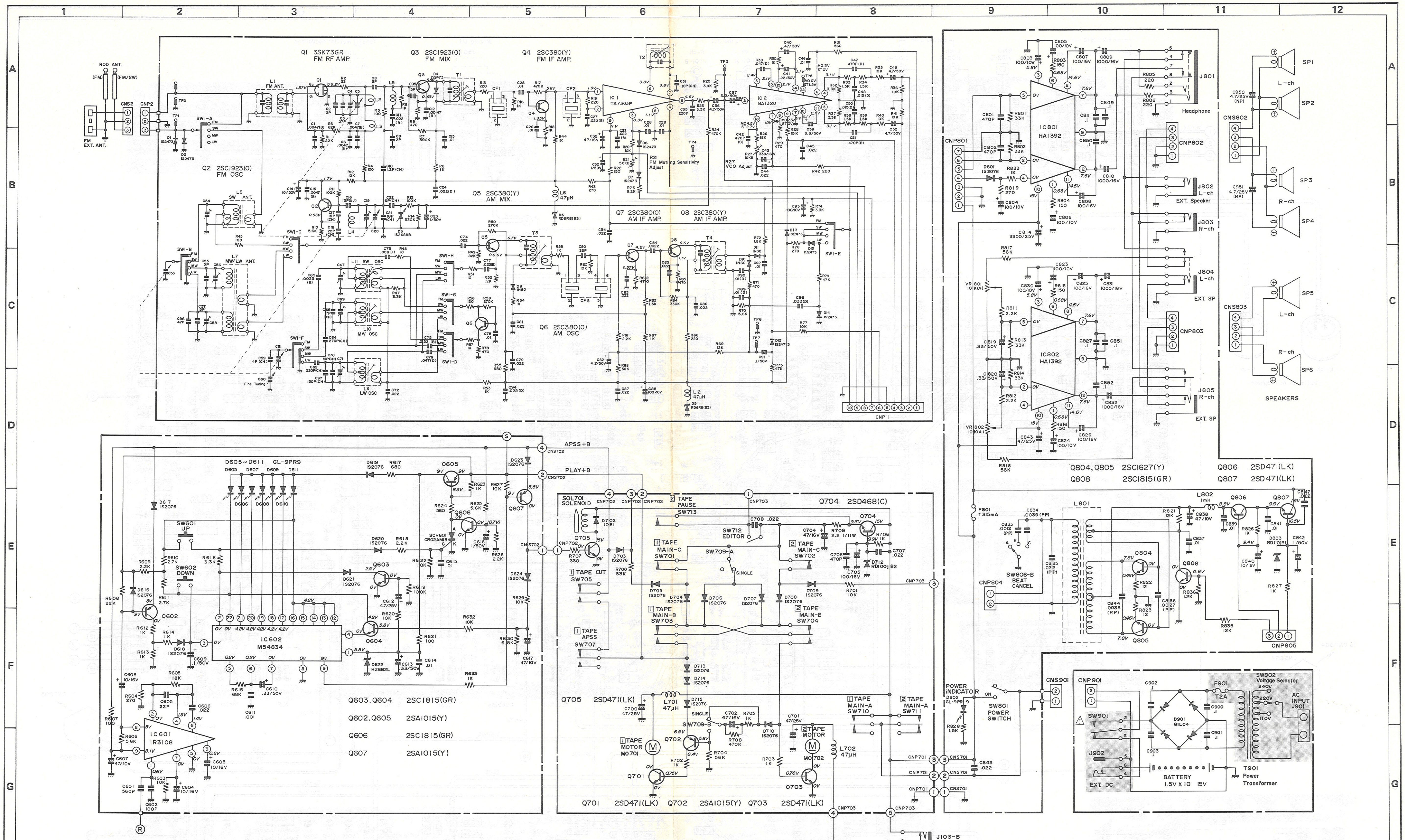

EXT.MIC
L-ch
Remote
R-ch
J103-A
J103-B
J103-C
GND
J102-C
phono/Line
L-ch
J102-A
R-ch
J102-B
Line Out
L ch
J101-A
R-ch
J101-B
Mixing Mic
J501
Tape I monitor headphone
J104
phono/Line
SW401
IC401
F1291AF-A2
F1291AF-A3
F1291AF-A1
F1291AF-AB
F1291AF-AA
F1291AF-A4
WHITE
PURPLE
GRAY
YELLOW
ORANGE
BROWN
BLUE
BLACK
RED
L-ch
R-ch
built-in microphone
CNP103
SW101(A~L)
CNP101
IC101
IC102
IC111
IC112
IC113
IC114
IC115
IC351
IC352
IC501
To CNP804
CNS804
VR452
VR451
L452
L451
TP452
TP451
CNP102
SW102
Function
VR101 A,B
REC.VR
SW103
ALC/Man
SW104
Dubbing
SW105
1 Tape
SW106
2 Tape
SW301
N.R.
SW107
Meter
SW108
FM mono/St.Muto
To CNP805
CNS805
Echo
CNS501
CNP501
SW501
Mixing
VR501-A,B
Echo
VR503-A,B
Mic. Fader
VR504-A,B
Tape Fader
VR506-A,B
Bass
VR505-A,B
Treble
VR507
Palance
VR508-A,B
Volume
SW502
Loudness
SHARP

Figure 21 WIRING SIDE OF P.W. BOARD (1/6)


Q1 3SK73GR FM RF AMP.
Q3 2SC1923(O) FM MIX
Q4 2SC380(Y) FM IF AMP.
Q2 2SC1923(O) FM OSC
Q5 2SC380(Y) AM MIX
Q7 2SC380(O) AM IF AMP.
Q8 2SC380(Y) AM IF AMP.
Q6 2SC380(O) AM OSC
IC1 TA7303P
IC2 BA1320
ROD ANT.
FM EXT. ANT.
L1 FM ANT.
L8 SW ANT.
L7 MW/LW ANT.
L11 SW OSC
L10 MW OSC
L9 LW OSC
CF1
CF2
CF3
T1
T2
T3
T4
R21 FM Muting Sensitivity Adjust
R27 VCO Adjust
CNP1
IC801 HA1392
IC802 HA1392
J801 Headphone
J802 L-ch EXT. Speaker
J803 R-ch
J804 L-ch EXT. SP
J805 R-ch EXT. SP
CNP801
CNP802
CNP803
CNS802
CNS803
SP1
SP2
SP3
SP4
SP5
SP6
L-ch
R-ch
SPEAKERS
VR801 10K(A)
VR802 10K(A)
Q804, Q805 2SC1627(Y)
Q808 2SC1815(GR)
Q806 2SD471(LK)
Q807 2SD471(LK)
L802 1mH
L801
F801 T315mA
SW806-B BEAT CANCEL
CNP804
CNP805
POWER INDICATOR D802 GL-9PR
SW801 POWER SWITCH
CNS901
CNP901
SW901
J902 EXT. DC
D901 GIL04
F901 T2A
SW902 Voltage Selector 240V 220V 110V
AC INPUT J901
T901 Power Transformer
BATTERY 1.5V x 10 15V
APSS+B
PLAY+B
D605~D611 GL-9PR9
IC602 M54834
IC601 IR3108
SW601 UP
SW602 DOWN
SCR601 CR02AM18
Q603, Q604 2SC1815(GR)
Q602, Q605 2SA1015(Y)
Q606 2SC1815(GR)
Q607 2SA1015(Y)
SOL701 SOLENOID
Q704 2SD468(C)
Q705 2SD471(LK)
2 TAPE PAUSE SW713
SW712 EDITOR
1 TAPE MAIN-C SW701
2 TAPE MAIN-C SW702
1 TAPE CUT SW705
SW709-A
SINGLE
1 TAPE MAIN-B SW703
2 TAPE MAIN-B SW704
1 TAPE APSS SW707
1 TAPE MAIN-A SW710
2 TAPE MAIN-A SW711
SW709-B
1 TAPE MOTOR M0701
2 TAPE MOTOR M0702
L701 47μH
L702 47μH
Q701 2SD471(LK) Q702 2SA1015(Y) Q703 2SD471(LK)
J103-B REMOTE
CNP701
CNS701
CNP702
CNP703
CNS702
1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H

Transistor	Deck 2 Selector Switch	Emiter	Collector	Base
Q804	Metal	0.46V	7.8V	0V
	CrO$_2$	0.32V	5.3V	0.15V
	Normal	0.22V	3.75V	0.3V
Q805	Metal	0.46V	7.8V	0V
	CrO$_2$	0.32V	5.33V	0.14V
	Normal	0.22V	3.75V	0.3V

Q806	Metal	8.8V	9.91V	9.4V
	CrO$_2$	5.6V	9.88V	6.66V
	Normal	4.18V	9.86V	4.83V
Q807	Metal	9.9V	15V	10.5V
	CrO$_2$	9.9V	15V	10.5V
	Normal	9.9V	15V	10.5V

Specifications or wiring diagrams of model are subject to change for the improvement without prior notice.

Figure 23 SCHEMATIC DIAGRAM (2/2)

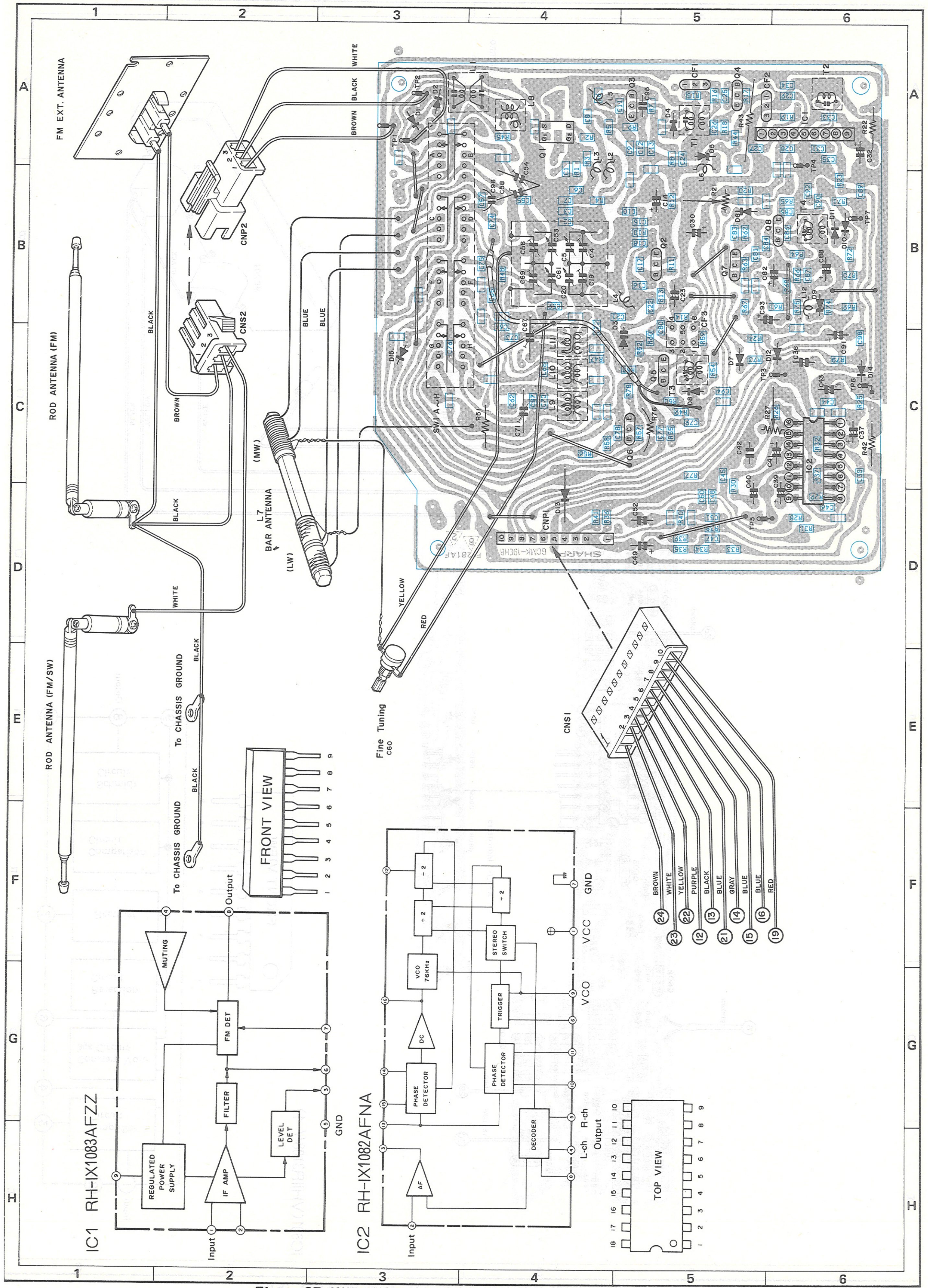

FM EXT. ANTENNA
ROD ANTENNA (FM)
ROD ANTENNA (FM/SW)
BAR ANTENNA L7 (MW) (LW)
To CHASSIS GROUND
CNP2
CNS2
CNP1
CNS1
SW1A-H
Fine Tuning C60
BROWN
BLACK
WHITE
BLUE
YELLOW
RED
PURPLE
GRAY
IC1 RH-IX1083AFZZ
MUTING
FM DET
FILTER
LEVEL DET
IF AMP
REGULATED POWER SUPPLY
Input
Output
GND
FRONT VIEW
IC2 RH-IX1082AFNA
VCO 76KHz
PHASE DETECTOR
STEREO SWITCH
TRIGGER
DECODER
AF
DC
VCC
L-ch R-ch Output
TOP VIEW

Figure 25 WIRING SIDE OF P.W. BOARD (2/6)

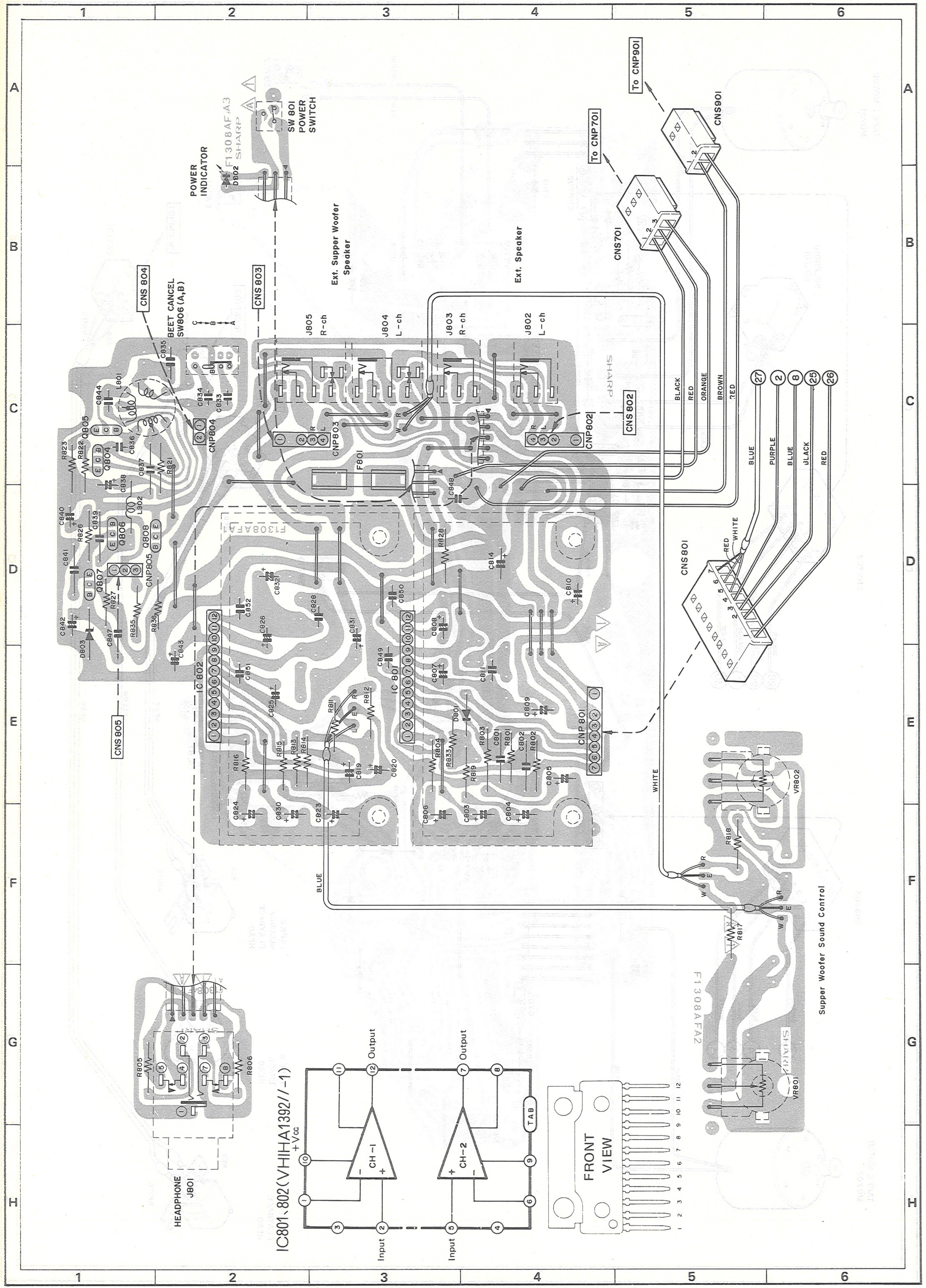

POWER INDICATOR D802
SW801 POWER SWITCH
CNS804
BEET CANCEL SW806 (A,B)
CNS803
Ext. Supper Woofer Speaker
Ext. Speaker
J805 R-ch
J804 L-ch
J803 R-ch
J802 L-ch
To CNP701
To CNP901
CNS701
CNS901
CNS801
CNS802
CNP801
CNP802
CNP803
CNP804
CNP805
CNS805
IC801
IC802
F801
F1308AFA1
F1308AFA2
F1308AFA3
SHARP
HEADPHONE J801
Supper Woofer Sound Control
VR801
VR802
IC801, 802 (VHIHA1392//-1)
+Vcc
CH-1
CH-2
Input
Output
TAB
FRONT VIEW
BLACK
RED
ORANGE
BROWN
BLUE
PURPLE
WHITE

Figure 26 WIRING SIDE OF P.W. BOARD (3/6)

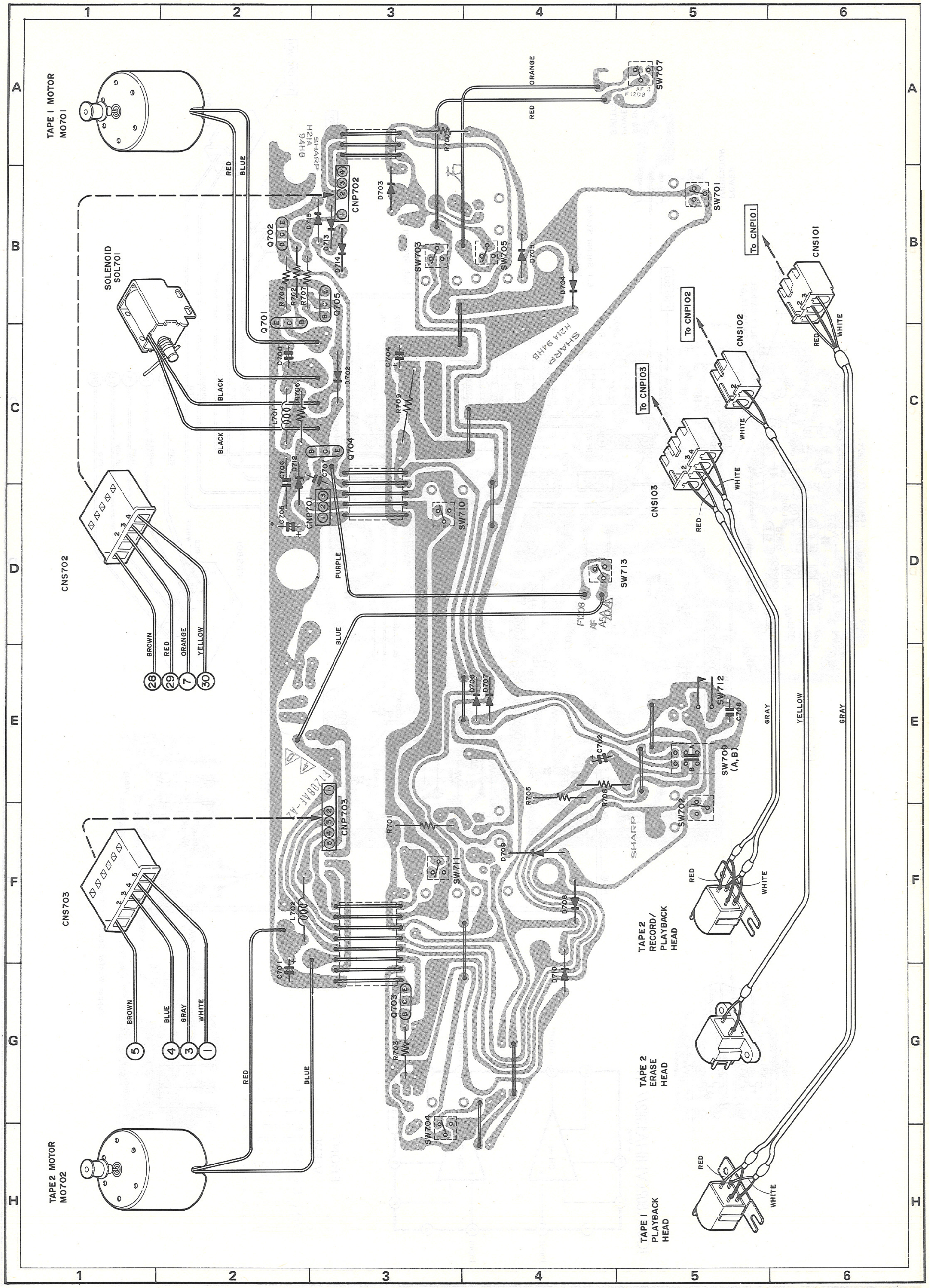

TAPE 1 MOTOR M0701
SOLENOID SOL701
CNS702
BROWN
RED
ORANGE
YELLOW
28
29
7
30
CNS703
BROWN
BLUE
GRAY
WHITE
5
4
3
1
TAPE2 MOTOR M0702
RED
BLUE
BLACK
CNP702
CNP703
Q701
Q702
Q703
Q704
Q705
L701
L702
PURPLE
ORANGE
SW701
SW702
SW703
SW704
SW705
SW707
SW709 (A, B)
SW710
SW711
SW712
SW713
To CNP101
CNS101
To CNP102
CNS102
To CNP103
CNS103
WHITE
GRAY
YELLOW
TAPE 2 RECORD/ PLAYBACK HEAD
TAPE 2 ERASE HEAD
TAPE 1 PLAYBACK HEAD
SHARP
1 2 3 4 5 6
A B C D E F G H

Figure 27 WIRING SIDE OF P.W. BOARD (4/6)

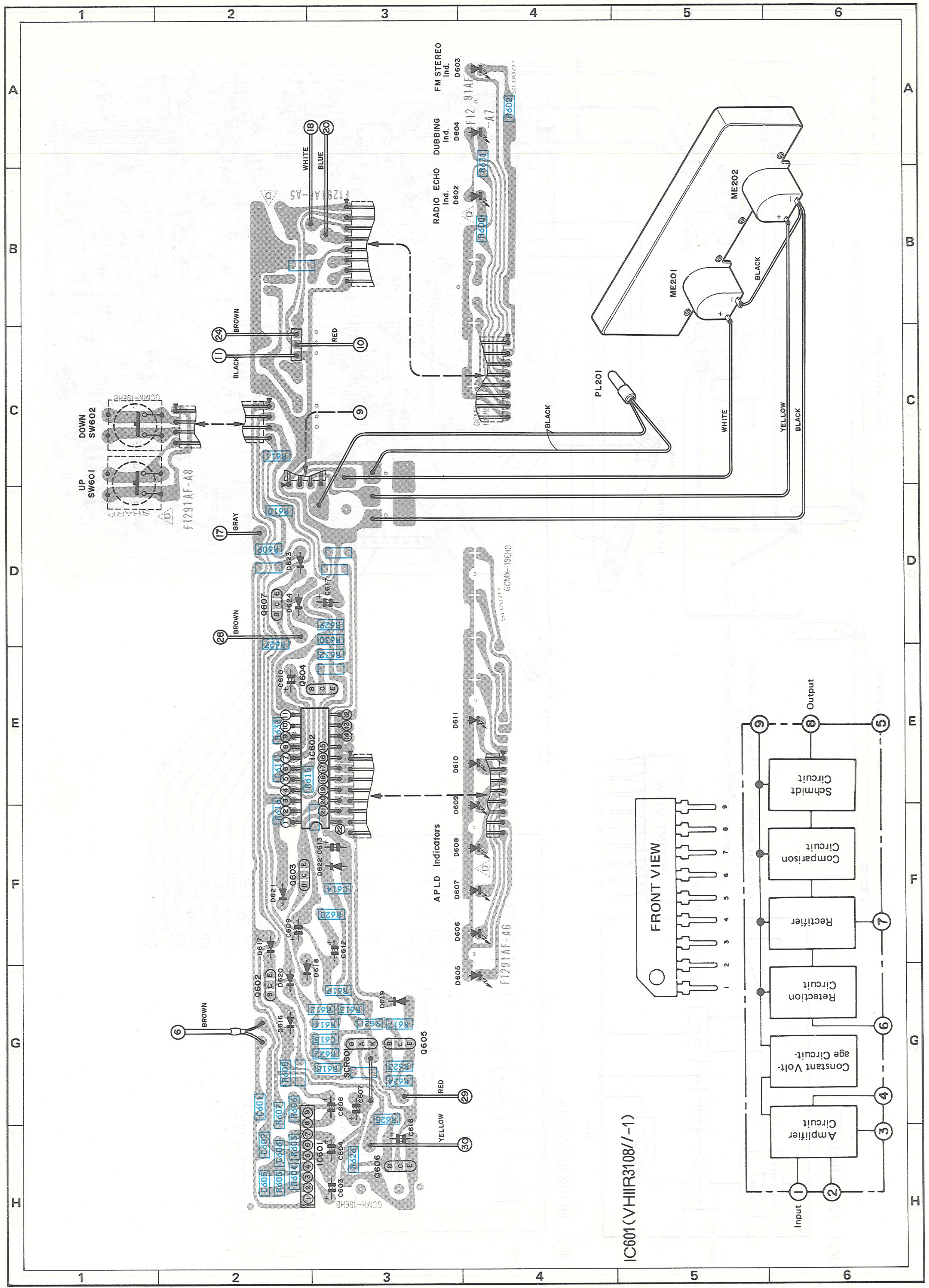

FM STEREO Ind. D603
DUBBING Ind. D604
RADIO ECHO Ind. D602
UP SW601
DOWN SW602
WHITE
BLUE
BROWN
BLACK
RED
GRAY
YELLOW
18
20
24
11
10
9
17
28
6
29
30
ME201
ME202
PL201
Q602
Q603
Q604
Q605
Q606
Q607
IC601
IC602
SCR601
APLD Indicators
D605
D606
D607
D608
D609
D610
D611
F1291AF-A5
F1291AF-A6
F1291AF-A7
F1291AF-A8
FRONT VIEW
IC601(VHIIR3108//-1)
Input
Output
Schmidt Circuit
Comparison Circuit
Rectifier
Retection Circuit
Constant Voltage Circuit
Amplifier Circuit
1
2
3
4
5
6
7
8
9
1 2 3 4 5 6
A B C D E F G H

Figure 28 WIRING SIDE OF P.W. BOARD (5/6)

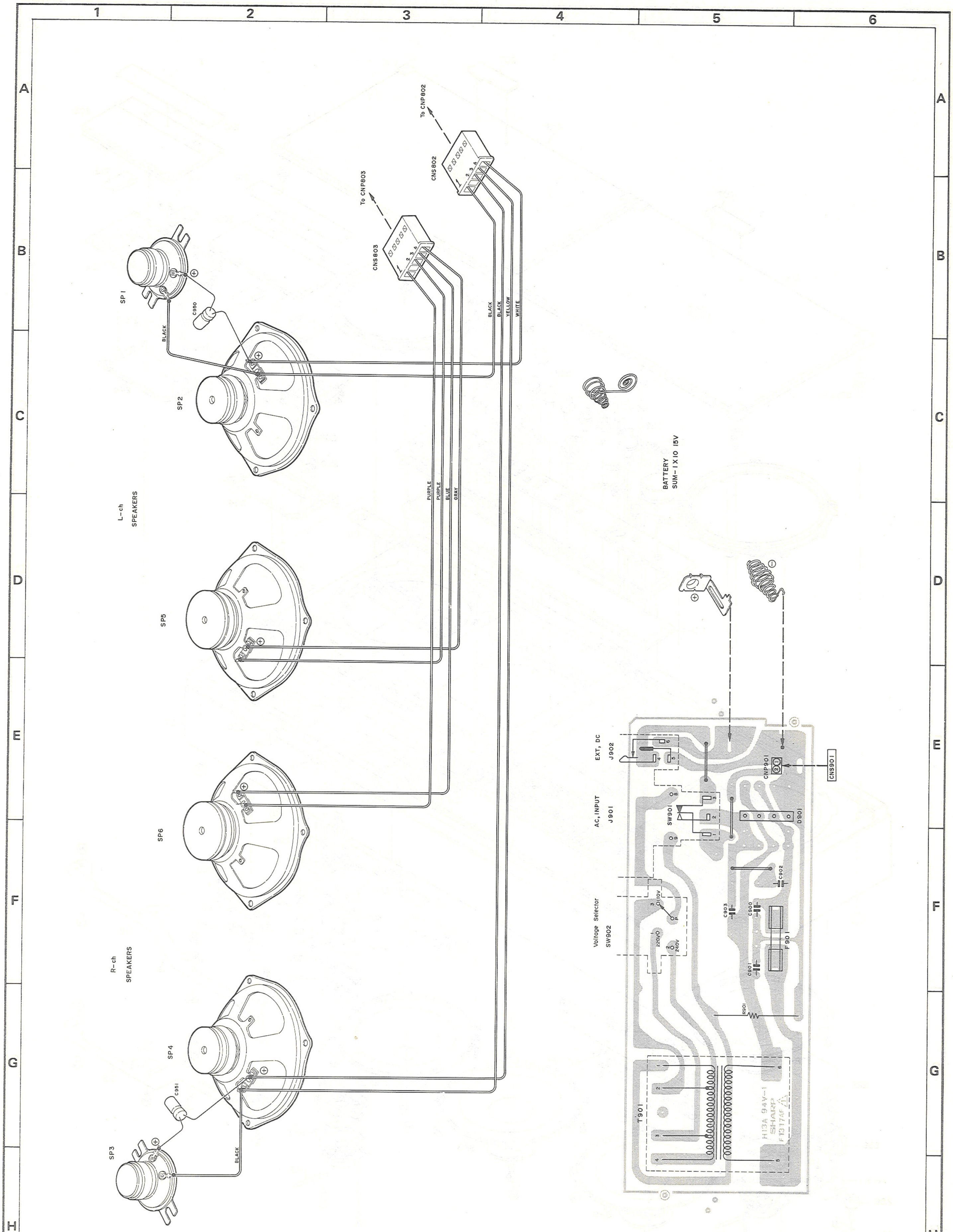
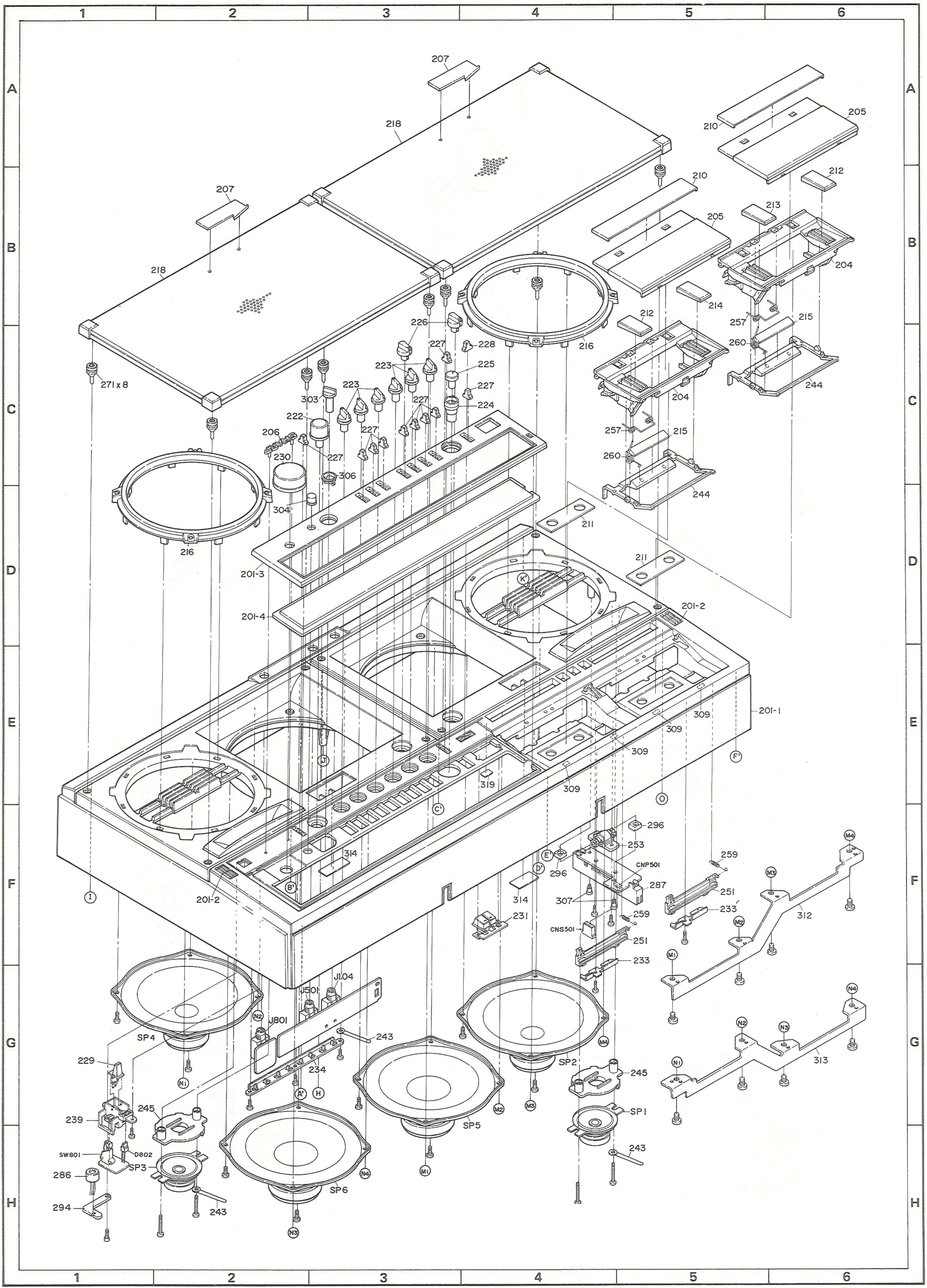

1
2
3
4
5
6
A
B
C
D
E
F
G
H
To CNP802
CNS802
To CNP803
CNS803
SP1
C950
BLACK
SP2
BLACK
BLACK
YELLOW
WHITE
PURPLE
PURPLE
BLUE
GRAY
L-ch
SPEAKERS
SP5
SP6
R-ch
SPEAKERS
SP4
C951
SP3
BLACK
BATTERY
SUM-1 X 10 15V
EXT, DC
J902
AC, INPUT
J901
SW901
CNP901
CNS901
D901
Voltage Selector
SW902
110V
220V
240V
C902
C903
C900
C901
F901
R901
T901
H13A 94V-1
SHARP
F1317AF

Figure 29 WIRING SIDE OF P.W. BOARD (6/6)



1
2
3
4
5
6
A
B
C
D
E
F
G
H
207
218
207
218
210
205
212
210
213
205
204
214
212
257
215
260
244
226
227
228
216
223
225
271 x 8
303
223
227
227
224
204
222
206
227'
257
215
230
227
306
260
244
304
216
211
201-3
211
K'
201-2
201-4
201-1
309
309
309
J'
309
319
O
F'
C'
296
253
314
E'
259
CNP501
B'
D'
296
287
201-2
I
307
251
233
314
M4
M3
312
231
259
CNS501
251
233
M2
M1
J104
J501
N2
J801
243
SP4
229
234
N1
A'
H
M4
SP2
245
N4
N2
N3
313
N1
239
245
M2
M3
SP1
SP5
SW801
D802
SP3
243
286
N4
M1
SP6
294
243
N3

Figure 30 CABINET EXPLODED VIEW (1/3)

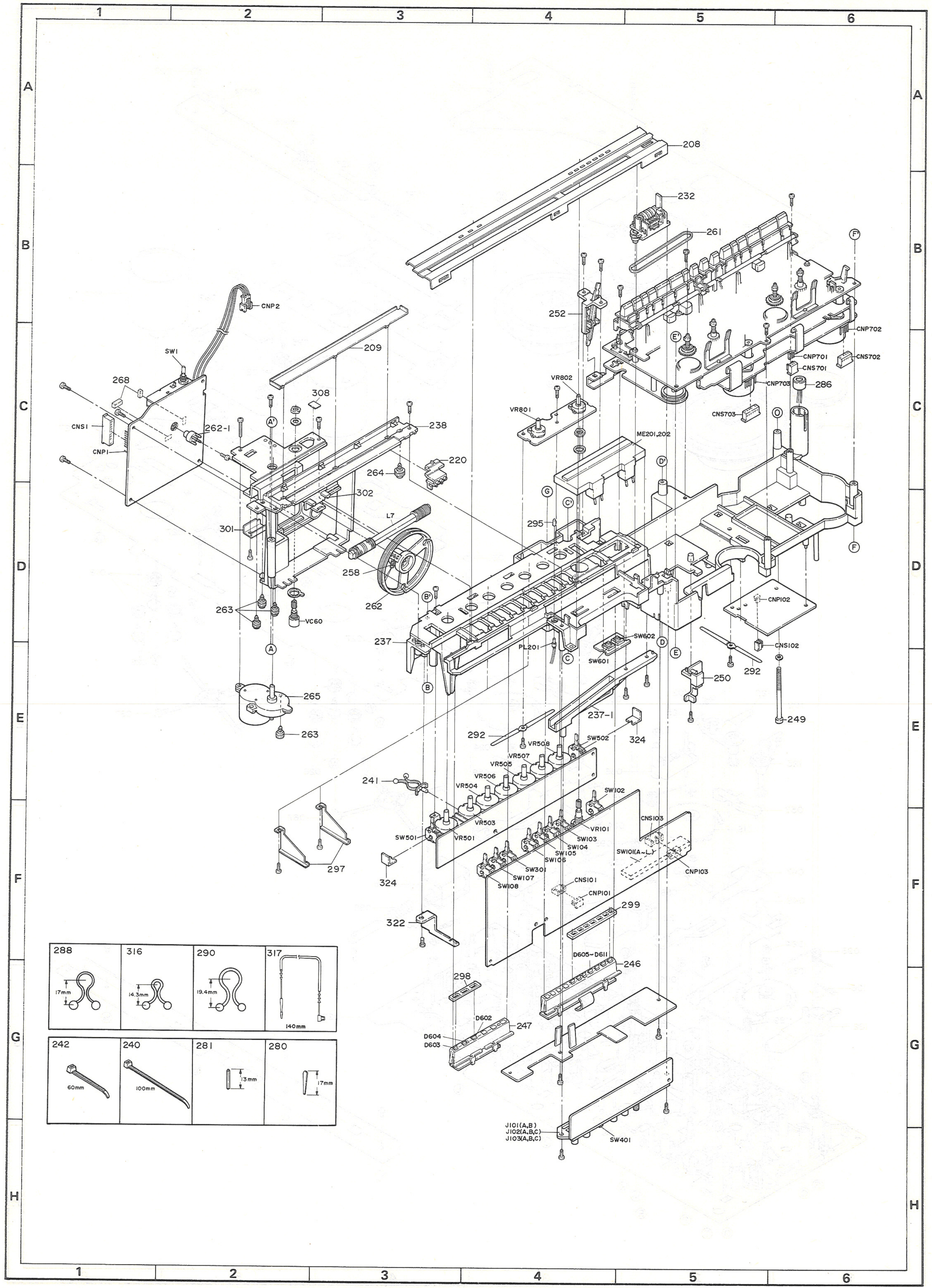

1
2
3
4
5
6
A
B
C
D
E
F
G
H
208
232
261
CNP2
SW1
209
268
308
252
VR802
CNP702
CNP701
CNS702
CNS701
CNP703
286
CNS703
CNS1
CNP1
262-1
238
VR801
ME201,202
220
264
302
301
L7
295
258
262
263
VC60
237
PL201
SW602
SW601
CNP102
CNS102
250
292
249
265
263
237-1
292
324
SW502
VR508
VR507
VR505
VR506
VR504
VR503
241
SW102
VR501
SW501
CNS103
VR101
SW103
SW104
SW105
SW106
SW101(A~L)
SW301
SW107
SW108
CNS101
CNP101
CNP103
297
324
322
299
D605~D611
246
298
D602
247
D604
D603
J101(A,B)
J102(A,B,C)
J103(A,B,C)
SW401
288
17mm
316
14.3mm
290
19.4mm
317
140mm
242
60mm
240
100mm
281
13mm
280
17mm

Figure 31 CABINET EXPLODED VIEW (2/3)

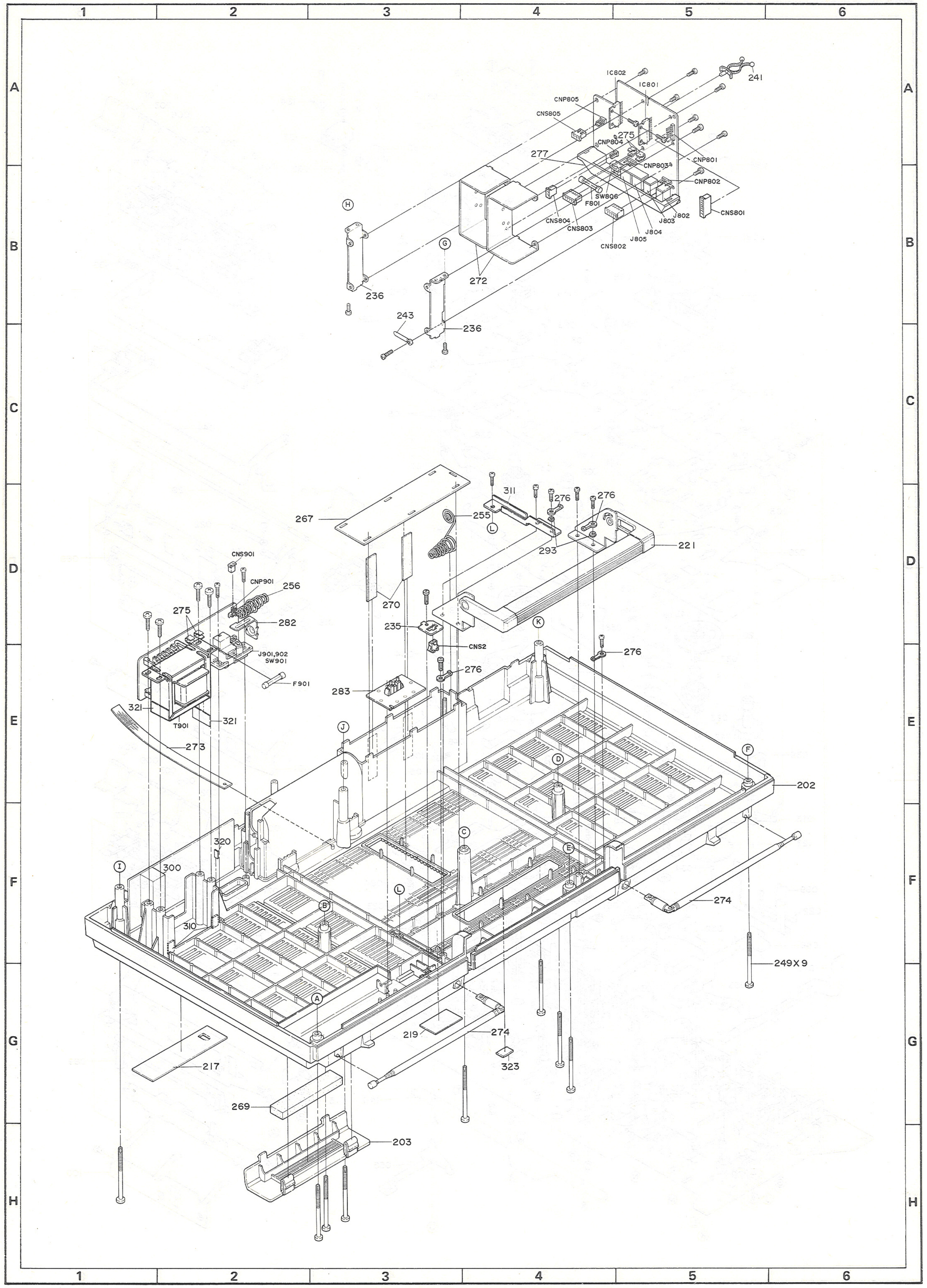

1
2
3
4
5
6
A
B
C
D
E
F
G
H
IC802
IC801
241
CNP805
CNS805
275
277
CNP804
CNP803
CNP801
CNP802
SW806
F801
J802
J803
CNS801
CNS804
CNS803
J804
J805
CNS802
236
272
243
236
267
311
276
276
255
293
221
CNS901
CNP901
256
275
282
270
235
CNS2
J901,902
SW901
F901
276
276
283
321
T901
321
273
202
320
300
274
310
249X9
219
274
323
217
269
203

Figure 32 CABINET EXPLODED VIEW (3/3)

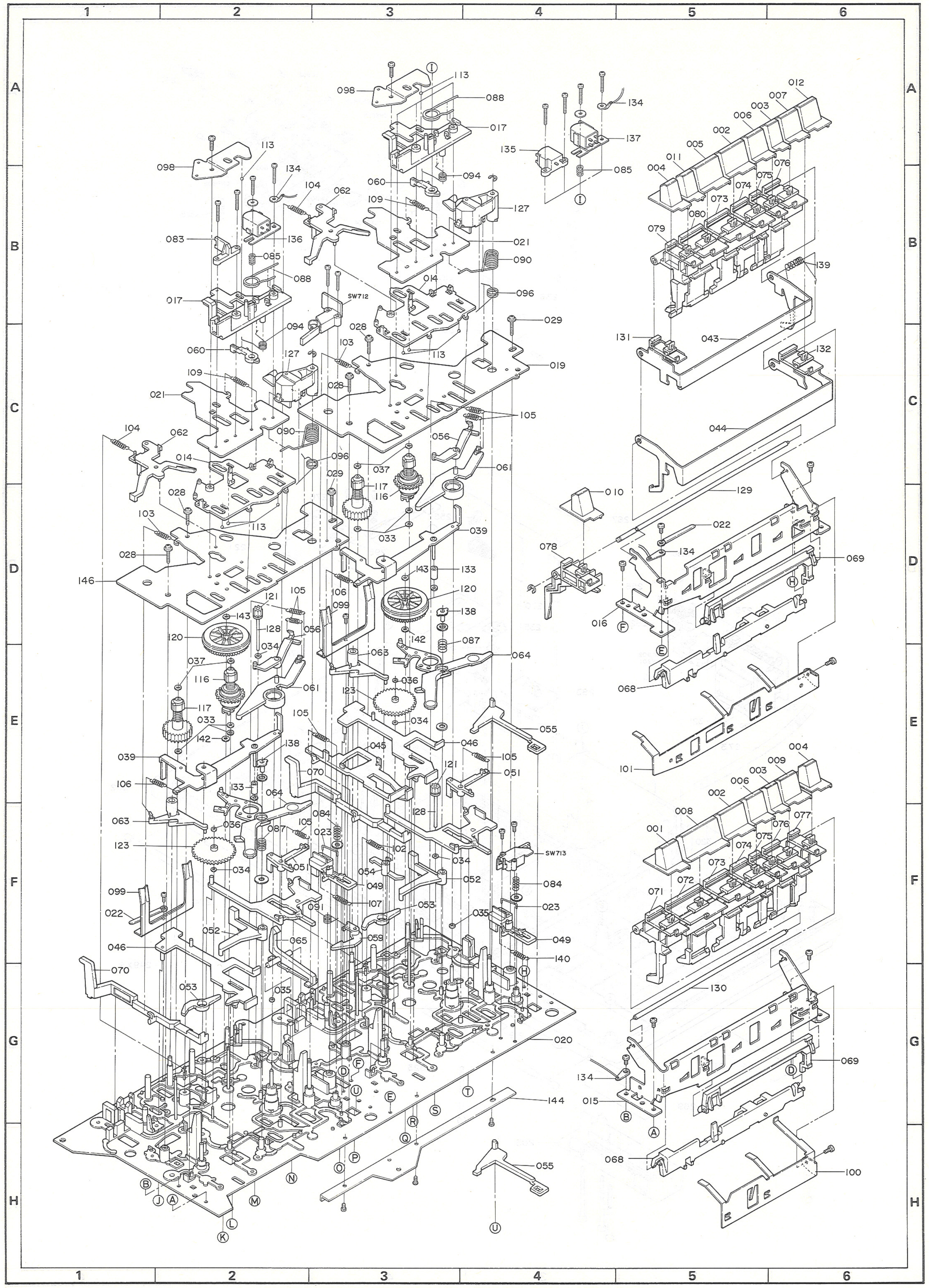

1
2
3
4
5
6
A
B
C
D
E
F
G
H
098
113
088
017
134
137
135
085
012
007
003
006
002
005
011
004
076
074
075
073
080
079
139
094
060
127
109
021
090
096
014
104
062
136
083
029
019
028
103
105
SW712
131
043
132
044
056
061
037
117
116
010
129
022
078
069
033
039
143
133
120
138
087
142
064
016
068
146
106
099
121
128
034
036
063
123
046
070
053
045
084
051
054
049
107
091
059
065
052
035
055
101
009
008
001
077
072
071
130
SW713
023
140
020
015
144
100

Figure 33 MECHANISM EXPLODED TOP VIEW

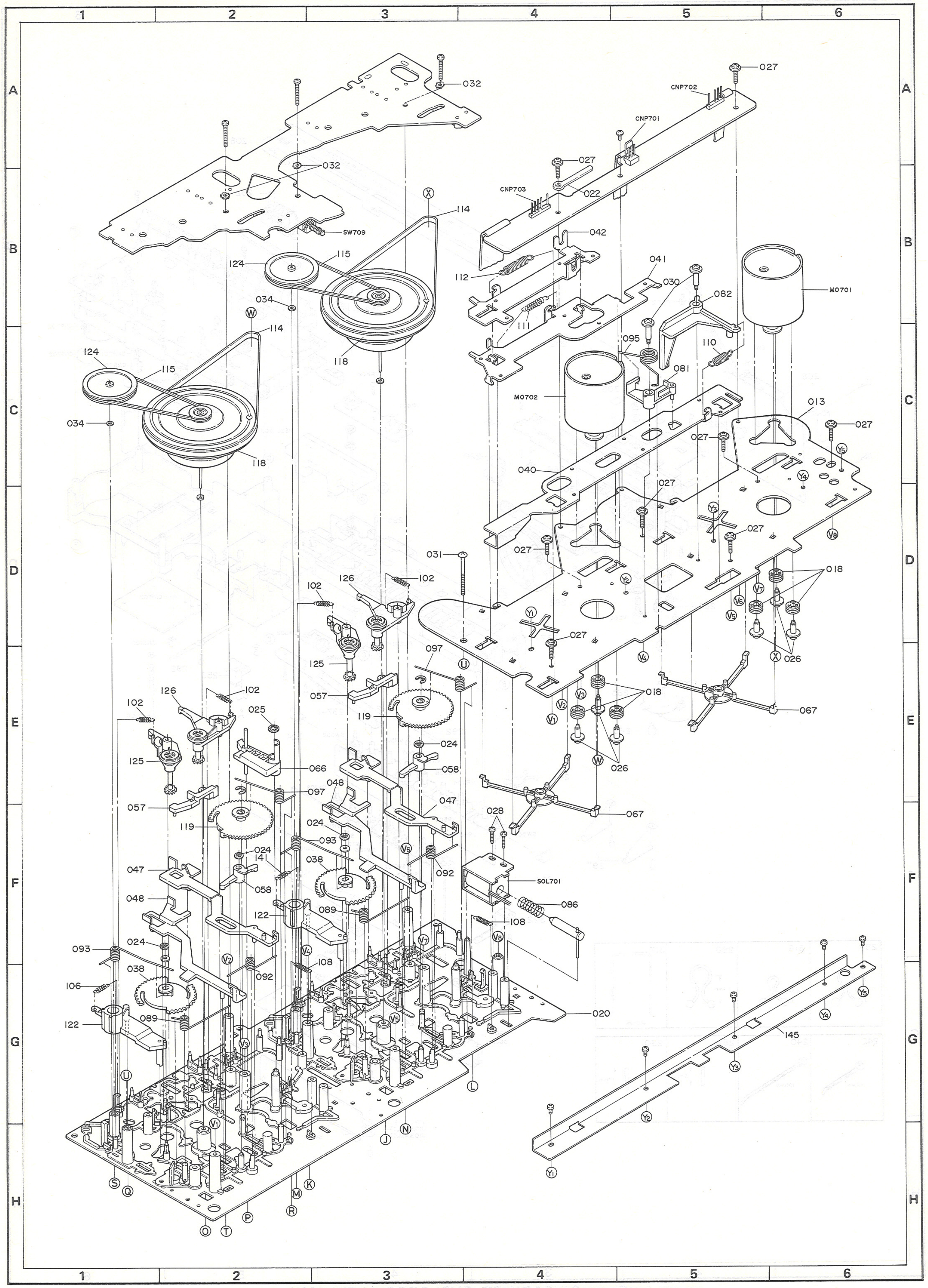

1
2
3
4
5
6
A
B
C
D
E
F
G
H
027
032
CNP702
CNP701
CNP703
022
SW709
114
115
124
118
034
042
041
030
082
M0701
112
111
095
110
081
M0702
013
040
031
102
126
125
018
026
067
097
057
119
024
058
025
066
048
047
093
141
038
092
089
122
028
SOL701
086
108
106
020
145

Figure 34 MECHANISM EXPLODED BOTTOM VIEW

DIAL CORD STRINGING

1. Turn the drum fully counterclockwise, and set the cord in the numerical order from 1 to 9 as shown in Fig. 40-2.
2. Turn the tuning control knob driving shaft fully clockwise, and adjust the dial pointer to come into "0" position of the dial scale plate. See Fig. 35-1.

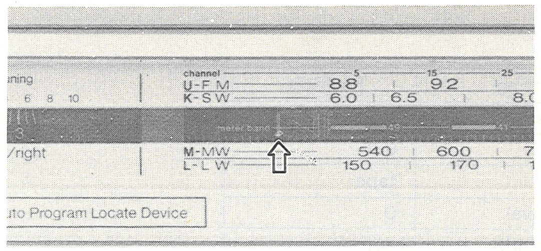

channel
5
15
25
U-F M
88
92
K-S W
6.0
6.5
8.0
M-MW
540
600
L-L W
150
170
/right
uto Program Locate Device

Figure 35-1

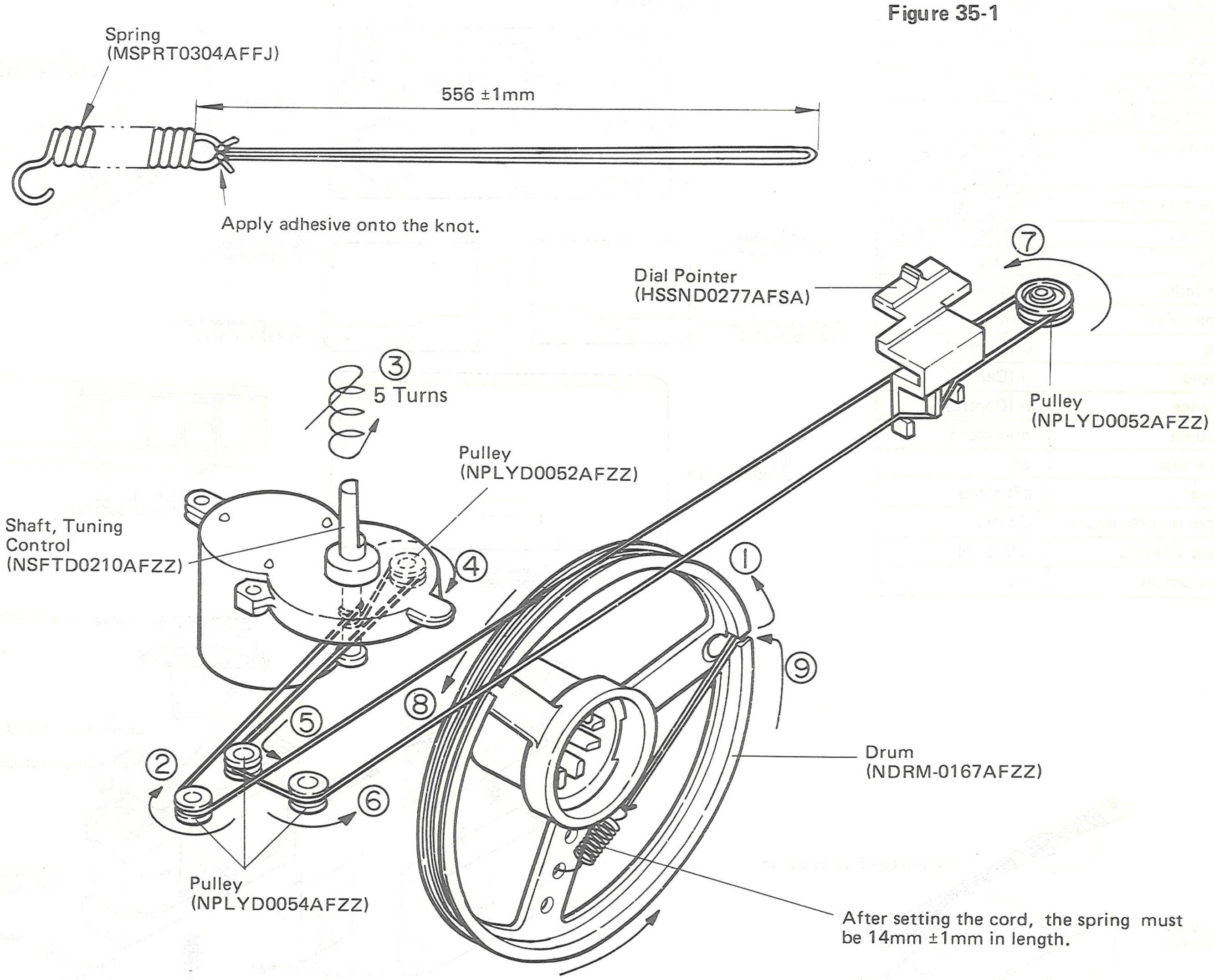
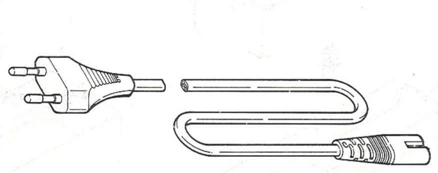
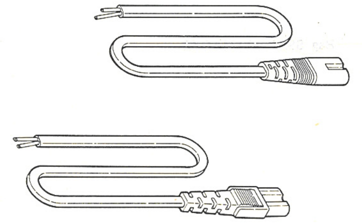
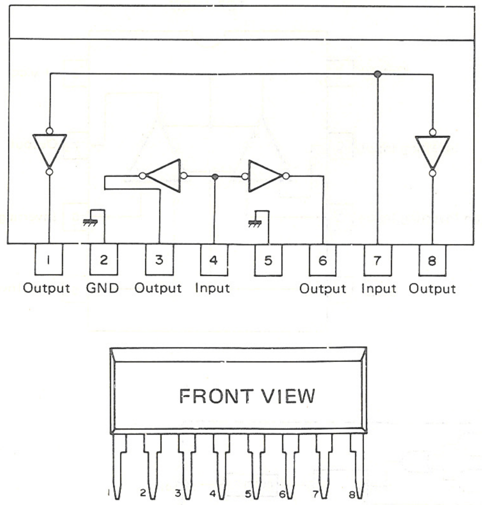

Spring
(MSPRT0304AFFJ)
556 ±1mm
Apply adhesive onto the knot.
Dial Pointer
(HSSND0277AFSA)
⑦
Pulley
(NPLYD0052AFZZ)
③
5 Turns
Pulley
(NPLYD0052AFZZ)
Shaft, Tuning
Control
(NSFTD0210AFZZ)
④
①
⑨
⑧
⑤
②
⑥
Drum
(NDRM-0167AFZZ)
Pulley
(NPLYD0054AFZZ)
After setting the cord, the spring must be 14mm ±1mm in length.

Figure 35-2

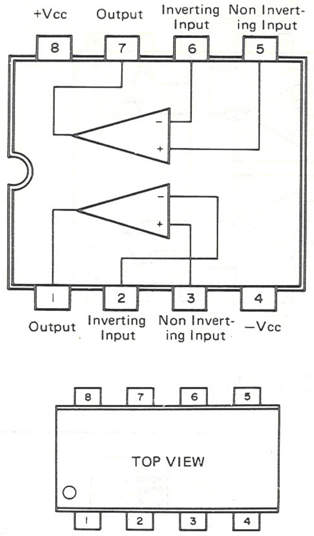
AC SUPPLY CORD

QACCK0050AFZZ (GF-777H)	QACCB0003AG0V (GF-777E)
	

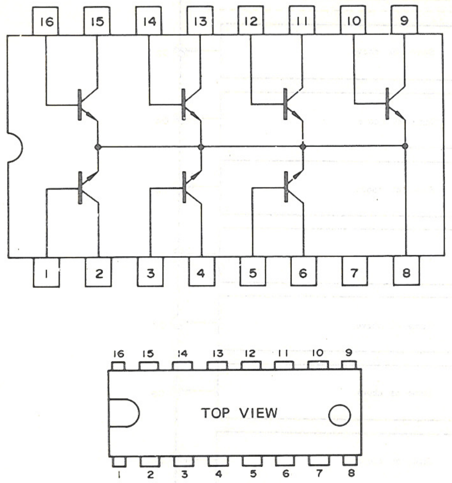
IC101、109、112、113(VHIM54512L/-1)


1
2
3
4
5
6
7
8
Output
GND
Output
Input
Output
Input
Output
FRONT VIEW
1
2
3
4
5
6
7
8

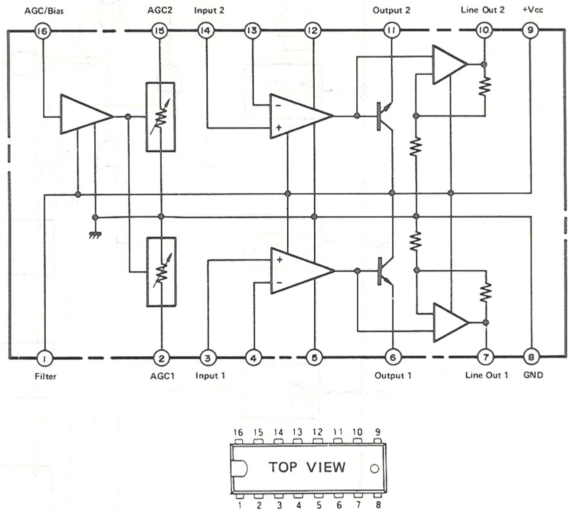
IC102(VHIRC4558P/-1)


+Vcc
Output
Inverting Input
Non Inverting Input
8
7
6
5
1
2
3
4
Output
Inverting Input
Non Inverting Input
–Vcc
8
7
6
5
TOP VIEW
1
2
3
4

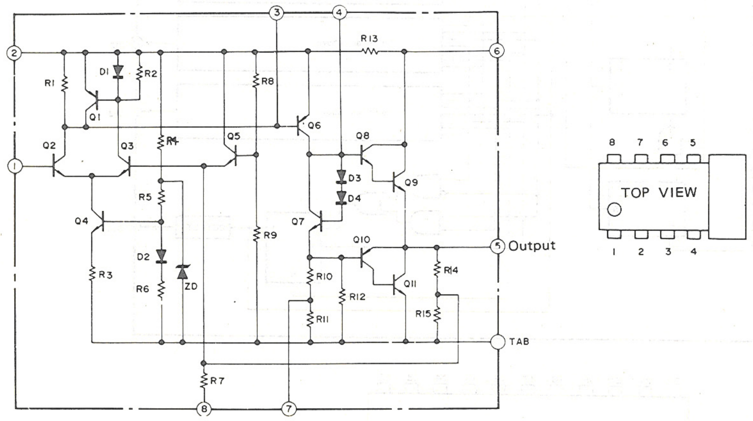
IC114(VHIM54515//-1)


16
15
14
13
12
11
10
9
1
2
3
4
5
6
7
8
16 15 14 13 12 11 10 9
TOP VIEW
1 2 3 4 5 6 7 8

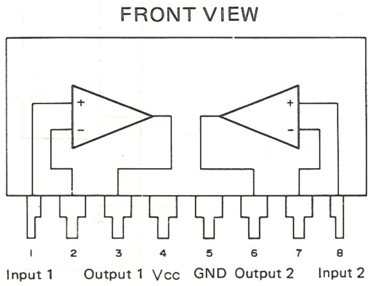
IC115(VHIM51301P/-1)


AGC/Bias
AGC2
Input 2
Output 2
Line Out 2
+Vcc
16
15
14
13
12
11
10
9
1
2
3
4
5
6
7
8
Filter
AGC1
Input 1
Output 1
Line Out 1
GND
16 15 14 13 12 11 10 9
TOP VIEW
1 2 3 4 5 6 7 8

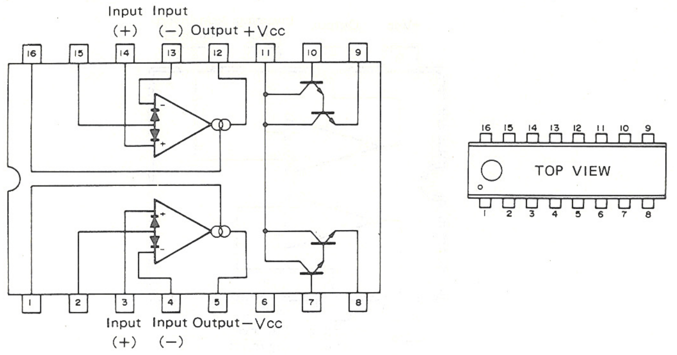
IC501(VHIUPC575C2-1)


1
2
3
4
5
6
7
8
Output
TAB
R1
R2
R3
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R15
D1
D2
D3
D4
ZD
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q11
8 7 6 5
TOP VIEW
1 2 3 4

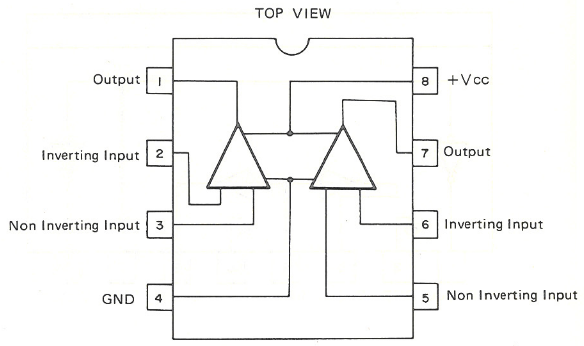
IC401(RH-IX1079AFZZ)


FRONT VIEW
1
2
3
4
5
6
7
8
Input 1
Output 1
Vcc
GND
Output 2
Input 2

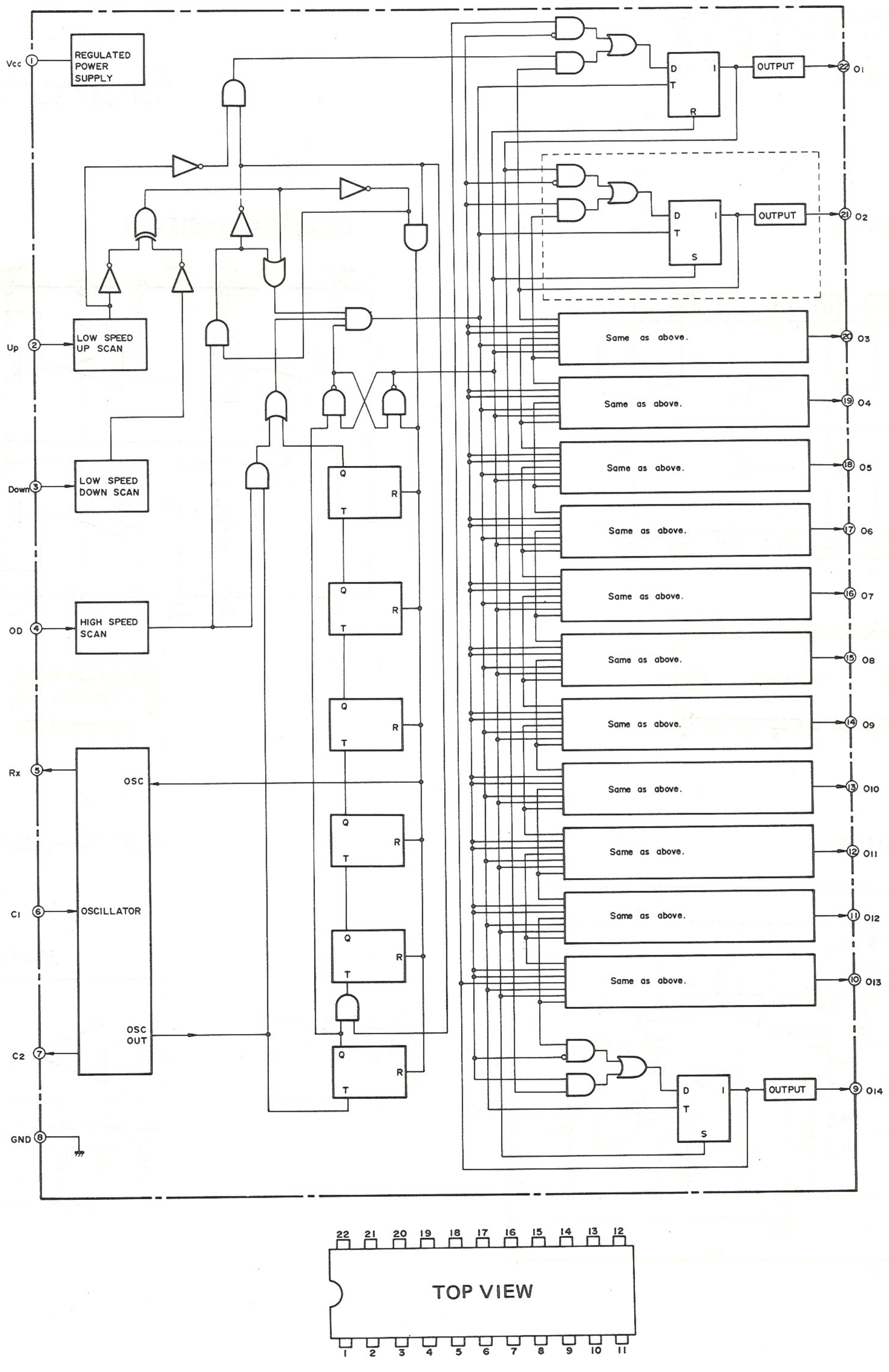
IC351(VHILM13600N-1)


Input Input
(+) (−) Output +Vcc
16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
Input Input Output −Vcc
(+) (−)
TOP VIEW

IC352(VHILM358N//-1)

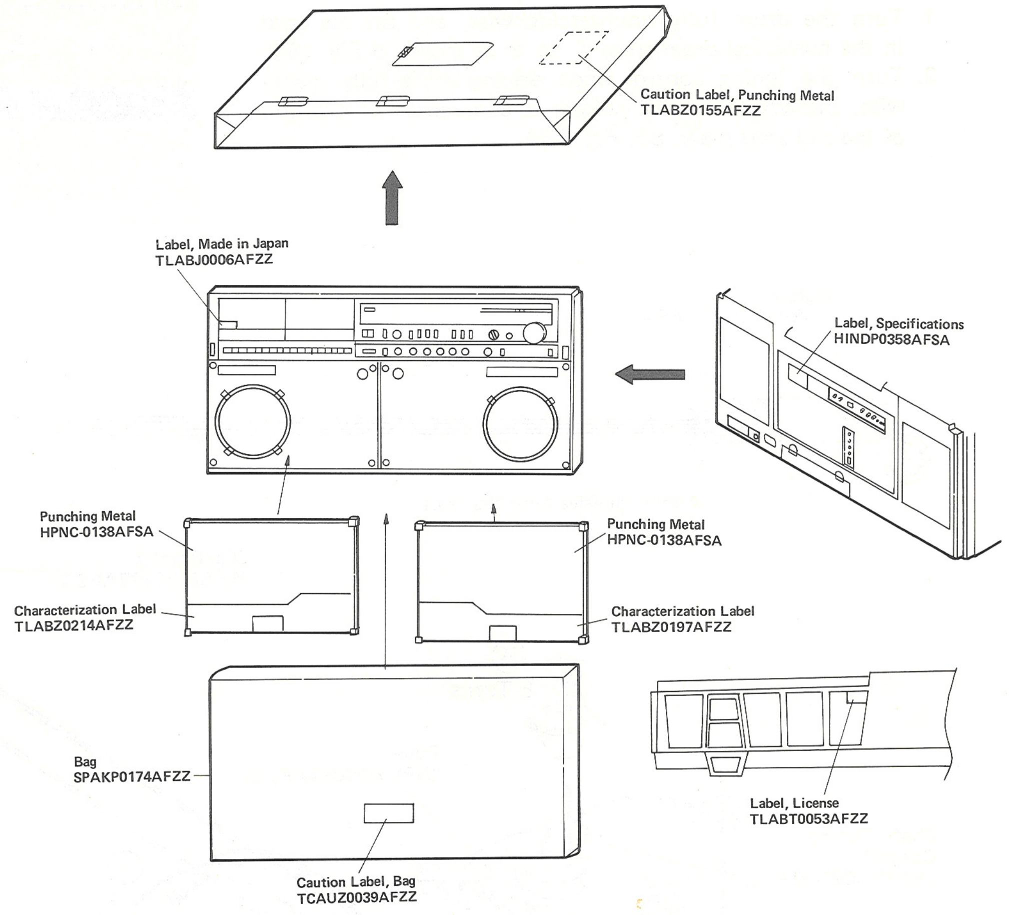

TOP VIEW
Output 1
Inverting Input 2
Non Inverting Input 3
GND 4
8 +Vcc
7 Output
6 Inverting Input
5 Non Inverting Input

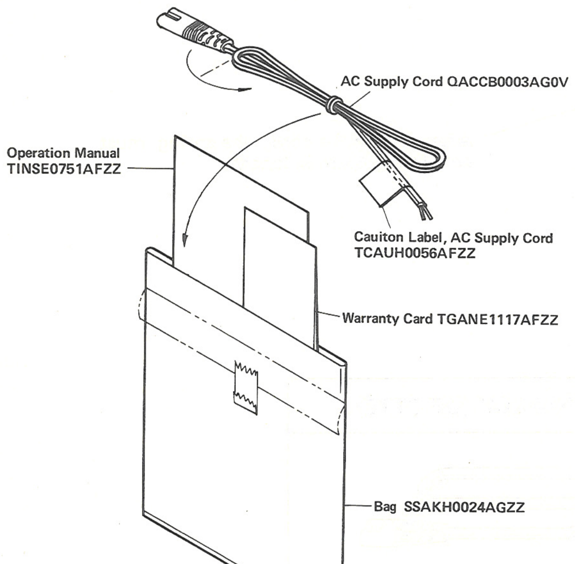
IC602 (VHIM54834//-1)

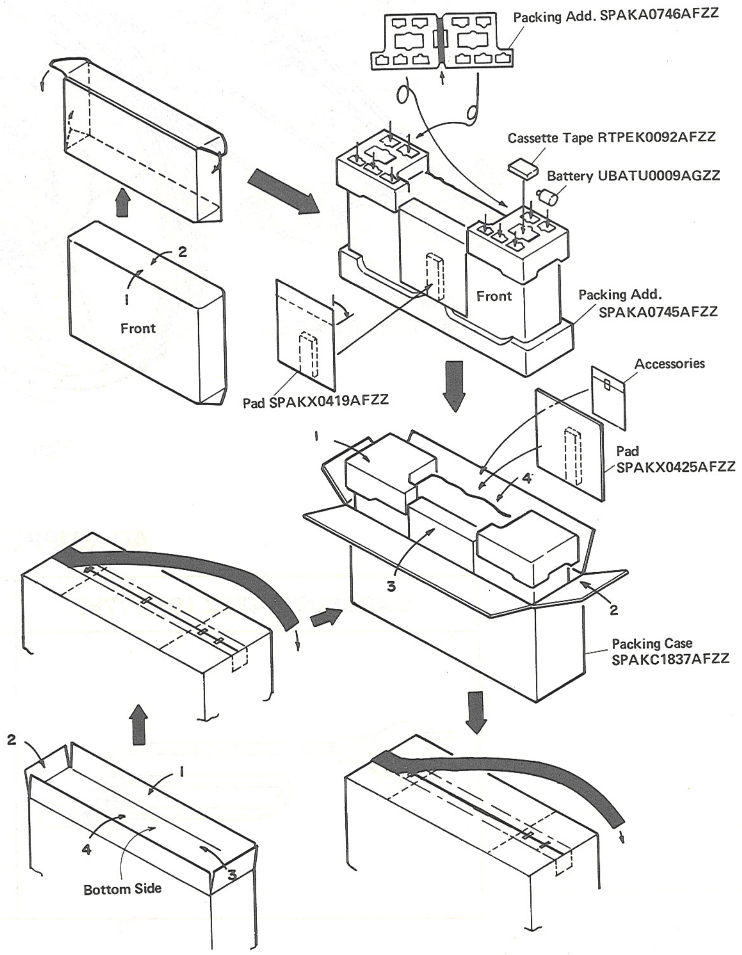

Vcc 1
REGULATED POWER SUPPLY
Up 2
LOW SPEED UP SCAN
Down 3
LOW SPEED DOWN SCAN
OD 4
HIGH SPEED SCAN
Rx 5
OSC
Cl 6
OSCILLATOR
C2 7
OSC OUT
GND 8
D T R
D T S
Q T R
OUTPUT
Same as above.
22 O1
21 O2
20 O3
19 O4
18 O5
17 O6
16 O7
15 O8
14 O9
13 O10
12 O11
11 O12
10 O13
9 O14
TOP VIEW
22 21 20 19 18 17 16 15 14 13 12
1 2 3 4 5 6 7 8 9 10 11

PACKING METHOD (GF-777E Only)

Setting	Position
Mechanism	stop
Counter	000
function	tape
Record level	0
Record mode	auto
Dubbing	off
Tape selector	normal
SNRS	on
FM mode/mute	stereo
Wave band selector	MW
Dial pointer	Get it back half a turn from right extreme position.
Tape operation	$\boxed{1}$ or & $\boxed{2}$
Mixing	mixing mic: off
Echo	Centre
Mic fader	Centre
Tape fader	Centre
Bass	0 (Centre)
Treble	0 (Centre)
Balance	0 (Centre)
Volume	minimum
Loudness	off
Power	off sleep
Super woofer sound	Centre
Input selector	LINE IN
Beat cancel	A


Caution Label, Punching Metal
TLABZ0155AFZZ
Label, Made in Japan
TLABJ0006AFZZ
Label, Specifications
HINDP0358AFSA
Punching Metal
HPNC-0138AFSA
Punching Metal
HPNC-0138AFSA
Characterization Label
TLABZ0214AFZZ
Characterization Label
TLABZ0197AFZZ
Bag
SPAKP0174AFZZ
Label, License
TLABT0053AFZZ
Caution Label, Bag
TCAUZ0039AFZZ


AC Supply Cord QACCB0003AG0V
Operation Manual
TINSE0751AFZZ
Cauiton Label, AC Supply Cord
TCAUH0056AFZZ
Warranty Card TGANE1117AFZZ
Bag SSAKH0024AGZZ


Packing Add. SPAKA0746AFZZ
Cassette Tape RTPEK0092AFZZ
Battery UBATU0009AGZZ
2
1
Front
Front
Packing Add.
SPAKA0745AFZZ
Pad SPAKX0419AFZZ
Accessories
Pad
SPAKX0425AFZZ
1
4
3
2
Packing Case
SPAKC1837AFZZ
2
1
4
3
Bottom Side

REPLACEMENT PARTS LIST

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

NOTES:

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

INTEGRATED CIRCUITS

REF. NO.	PART NO.	DESCRIPTION	CODE
IC1	RH-IX1083AFZZ	FM IF Amp. (TA7303P)	AK
IC2	RH-IX1082AFNA	PLL FM MPX Demodulator (BA1320)	AH
IC101	VHIM54512L/-1	Deck 1, APLD Muting/ Normal·Chrome Selector (M54512L)	AF
IC102	VHIRC4558P/-1	Deck 1, Monitor Output Amp. (RC4558P)	AG
IC109	VHIM54512L/-1	Deck 1, APLD Muting (M54512L)	AF
IC112	VHIM54512L/-1	Switching, Record Equalizer (M54512L)	AF
IC113	VHIM54512L/-1	Switching, Record Equalizer (M54512L)	AF
IC114	VHIM54515//-1	Built-in Microphone Bias Selector (M54515)	AG
IC115	VHIM51301P/-1	Record/Playback Amp. (M51301P)	AK
IC351	VHILM13600N-1	Voltage Control, Low Pass Filter (LM13600N)	AP
IC352	VHILM358N//-1	Mix. Amp., High Pass Filter, Peak Detector (LM358N)	AG
IC401	RH-IX1079AFZZ	Phono Equalizer Amp. (M51521)	AG
IC501	VHIUPC575C21F	Echo Amp. (UPC575C2)	AH
IC601	VHIIR3108//-1	APLD Amp. & Detector (IR3108)	AK
IC602	VHIM54834//-1	APLD Control Circuit (M54834)	AQ
IC801	VHIHA1392//-1	Audio Power Amp. (HA1392)	AR
IC802	VHIHA1392//-1	Super Woofer Sound Power Amp. (HA1392)	AR

TRANSISTORS

REF. NO.	PART NO.	DESCRIPTION	CODE
Q1	VS3SK73-GR/-1	FM RF Amp. (3SK73GR)	AF
Q2	VS2SC1923-O-A	FM Local Oscillator (2SC1923O)	AC
Q3	VS2SC1923-O-A	FM Mixer (2SC1923O)	AC
Q4	VS2SC380-Y/-A	FM IF Amp. (2SC380Y)	AB
Q5	VS2SC380-Y/-A	AM Mixer (2SC380Y)	AB
Q6	VS2SC380-O/-A	AM Local Oscillator (2SC380O)	AB
Q7	VS2SC380-O/-A	AM IF Amp. (2SC380O)	AB
Q8	VS2SC380-Y/-A	AM IF Amp. (2SC380Y)	AB
Q101, 102	VS2SC2240BL-1	Deck 1 Pre-amp. (2SC2240BL)	AC
Q103, 104	VS2SC732-B/-1	Deck 1 Pre-amp. (2SC732B)	AD
Q105, 106	VS2SC2240BL-1	Deck 2 Pre-amp. (2SC2240BL)	AC
Q107, 108	VS2SC732-B/-1	Deck 2 Pre-amp. (2SC732B)	AD
Q109	VS2SA1015Y/-1	Switching, Built-in Microphone (2SA1015Y)	AB
Q110	VS2SD471LK2-A	Ripple Filter (2SD471LK)	AD
Q115, 116	VS2SC1815GR-1	Record Equalizer Amp. (2SC1815GR)	AB
Q121, 122	VS2SC1815GR-1	Muting (2SC1815GR)	AB
Q123, 124	VS2SC1815GR-1	Meter Drive Amp. (2SC1815GR)	AB
Q125	VS2SC1815GR-1	Automatic Playback Level Control (2SC1815GR)	AB
Q126	VS2SC1815GR-1	Automatic Record Level Control (2SC1815GR)	AB
Q129, 130	VS2SC1815GR-1	Muting (2SC1815GR)	AB
Q131, 132	VS2SC1815GR-1	Normal·Chrome Selector (2SC1815GR)	AB
Q133, 134, Q135, 136	VS2SC1815GR-1	Muting, Edit (2SC1815GR)	AB
Q501	VS2SC732-B/-1	Microphone Amp. (2SC732B)	AD
Q505, 506	VS2SC1815GR-1	Switching, Tape Fader (2SC1815GR)	AB
Q602	VS2SA1015Y/-1	APLD Phase Inverter (2SA1015Y)	AB
Q603	VS2SC1815GR-1	APLD Arrangement Circuit (D605) (2SC1815GR)	AB
Q604	VS2SC1815GR-1	APLD Malfunction Prevention (2SC1815GR)	AB
Q605	VS2SA1015Y/-1	APLD Power Switching (2SA1015Y)	AB
Q606	VS2SC1815GR-1	APLD Power Switching (2SC1815GR)	AB
Q607	VS2SA1015Y/-1	Switching, Solenoid Drive (Q705) (2SA1015Y)	AB
Q701	VS2SD471LK2-A	Deck 1 Motor Drive (2SD471LK)	AD
Q702	VS2SA1015Y/-A	Switching, Motor Drive (Q701) (2SA1015Y)	AB
Q703	VS2SD471LK2-A	Deck 2 Motor Drive (2SD471LK)	AD
Q704	VS2SD468-C/-1 A	APLD Regulated Power Supply (2SD468C)	AD
Q705	VS2SD471LK2-A	Solenoid Drive (2SD471LK)	AD
Q804, 805	VS2SC1627Y/-A	Bias Oscillator (2SC1627Y)	AC
Q806	VS2SD471LK2-A	Switching, Voltage Regulated Power or Bias Oscillator (2SD471LK)	AD
Q807	VS2SD471LK2-A	Voltage Regulated Power or Bias Oscillator (2SD471LK)	AD
Q808	VS2SC1815GR-A	Switching, Bias Oscillator (2SC1815GR)	AB

DIODES

REF. NO.	PART NO.	DESCRIPTION	CODE
D1, 2	VHD1S2473//-U	Electrostatic Protector (1S2473)	AB
D3	VHC1S2688-BSF	Variable Capacitance, AFC (1S2688B)	AC
D4	VHD1S2473//-U	Overlord (1S2473)	AB
D5	VHERD6R8JB3-U	Zener, 6.8V/400mW (RD6R8JB3)	AB
D6, 7	VHD1S2473//-U	Level Shift, FM Tuning (1S2473)	AB
D8	VHD1N60////-U	AM AGC (1N60)	AB
D9	VHERD6R8JB3-U	Zener, 6.8V/400mW (RD6R8JB3)	AB
D10	VHD1N60////-U	AM Detector (1N60)	AB
D11	VHD1N60////-U	Level Shift, AM Tuning (1N60)	AB
D12	VHD1S2473//-U	Switching (1S2473)	AB
D13	VHD1S2473//-U	Switching (1S2473)	AB
D14	VHD1S2473//-U	Clamping (1S2473)	AB
D15	VHD1S2473//-U	Reverse Current Protector (1S2473)	AB
D101	VHD1S2076//-U	Switching, APLD Mode (1S2076)	AB
D102	VHD1S2076//-U	Switching, Deck 1 Monitor Output (1S2076)	AB
D111	VHD1S2076//-U	Switching, Dubbing Mode (1S2076)	AB
D112	VHD1S2076//-U	Reverse Current Prevention (1S2076)	AB
D115, 116	VHD1S2076//-U	Automatic Record Level Control (1S2076)	AB
D117, 118	VHD1N34A///-U	Logarithmic Compression (1N34A)	AB
D119	VHD1S2076//-U	Switching, Edit Muting Circuit (1S2076)	AB
D120, 121, D123	VHD1S2076//-U	Reverse Current Prevention (1S2076)	AB
D124	VHD1S2473//-U	APLD Muting (1S2473)	AB
D126	VHD1S2076//-U	Switching, Built-in Microphone (1S2076)	AB
D127	VHD1S2076//-U	Switching, Transistor Q808, Play Mode (1S2076)	AB
D128	VHD1S2076//-U	Switching, Transistor Q808, Record Mode (1S2076)	AB
D351	VHD1S2076//-U	Reverse Current Prevention (1S2076)	AB
D352, 353	VHD1S2076//-U	Protector, Peak Detector Amp. (1S2076)	AB
D355	VHEHZ6B2L//-U	Zener, 6.2V/400mW (HZ6B2L)	AB
D601	VHD1S2076//-U	Switching, Radio Mode (1S2076)	AB
D602	VHPGL-9PR9/-1	Radio Echo Indicator (GL-9PR9)	AC
D603	VHPGL-9PR9/-1	FM Stereo Broadcast Indicator (GL-9PR9)	AC
D604	VHPGL-9PG9/-1	Dubbing Indicator (GL-9PG9)	AD
D605, 606, D607, 608, D609, 610, D611	VHPGL-9PR9/-1	APLD Indicators (GL-9PR9)	AC
D616, 617, D618	VHD1S2076//-U	Reverse Current Prevention (1S2076)	AB
D619	VHD1S2076//-U	APLD Indicator Malfunction Prevention (1S2076)	AB
D620, 621	VHD1S2076//-U	Reverse Current Prevention (1S2076)	AB
D622	VHEHZ6B2L//-U	Zener, 6.2V/400mW (HZ6B2L)	AB
D623	VHD1S2076//-U	Reverse Voltage Protector, Transistor Q607 (1S2076)	AB
D624	VHD1S2076//-U	APLD Malfunction Prevention (1S2076)	AB
D702	VHD10E1////-1	Suge Current Absorber (10E1)	AC
D703, 704, D705, 706, D707, 708, D709, 710	VHD1S2076//-1	Reverse Current Prevention (1S2076)	AB
D712	VHERD100JB2-1	Zener, 10V/400mW (RD100JB2)	AB
D713, 714, D715	VHD1S2076//-1	Reverse Current Prevention (1S2076)	AB
D801	VHD1S2076//-1	Built-in Microphone Muting (1S2076)	AB
D802	VHPGL-9PR9/-1	Power Indicator (GL-9PR9)	AC
D803	VHERD110JB1-1	Zener, 11V/400mW (RD110JB1)	AB
D901	VHDGIL04///-1	Rectifier (GIL04)	AH

THYRISTOR

REF. NO.	PART NO.	DESCRIPTION	CODE
SCR601	VHSCR02AM1B-U	APLD Power Switching (CR02AM1B)	AE

FILTERS

REF. NO.	PART NO.	DESCRIPTION	CODE
CF1	RFILF0080AFZZ	FM 1st IF 10.7MHz ±20KHz	AD
CF2	RFILF0080AFZZ	FM 2nd IF 10.7MHz ±20KHz	AD
CF3	RFILA0074AFZZ	AM IF 455KHz ±1KHz (GF-777H)	AE
	RFILA0077AFZZ	AM IF 468KHz ±2.0KHz (GF-777E)	AE

TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION	CODE
T1	RCILI0289AFZZ	FM IF	AC
T2	RCILI0208AFZZ	FM IF	AC
T3	RCILI0256AFZZ	AM IF	AC
T4	RCILI0170AFZZ	AM IF (GF-777H)	AC
	RCILI0253AFZZ	AM IF (GF-777E)	AC
⚠T901	RTRNP0800AFZZ	Power	AX

COILS

REF. NO.	PART NO.	DESCRIPTION	CODE
L1	RCILA0510AFZZ	FM Antenna	AC
L2, 3	RCILR0340AFZZ	FM RF	AA
L4	RCILB0463AFZZ	FM Local Oscillator	AA
L5	RCILC0072AFZZ	FM RF Choke	AA
L6	VP-CU470K0000	47μH, Choke	AD
L7	RCILA0538AFZZ	MW & LW Antenna	AK
L8	RCILA0462AFZZ	SW Antenna	AD
L9	RCILB0353AFZZ	LW Local Oscillator (GF-777H)	AC
	RCILB0456AFZZ	LW Local Oscillator (GF-777E)	AD
L10	RCILB0389AFZZ	MW Local Oscillator	AD
L11	RCILB0604AFZZ	SW Local Oscillator	AD
L12	VP-CU470K0000	47μH, Choke	AD
L101, 102	RCILZ0102AFZZ	6.8mH	AC
L451, 452	RCILB0547AFZZ	Bias Step-up	AE
L501, 502	RCILZ0102AFZZ	6.8mH	AC
L701, 702	VP-CH470K0000	47μH	AB
L801	RCILB0546AFZZ	Bias Oscillator	AE
L802	VP-CH102K0000	1mH	AB

CONTROLS

REF. NO.	PART NO.	DESCRIPTION	CODE
R21	RVR-M0006SGZZ	50K ohm (B), FM Muting Sensitivity Adjust	AC
R27	RVR-M0004SGZZ	10K ohm (B), Voltage Controlled Oscillator Adjust	AC
VR101 (A,B)	RVR-A0160AFZZ	50K ohm (A), Recording Level	AK
VR104	RVR-M0007SGZZ	100K ohm (B), Battery Condition Meter Sensitivity Adjust	AC
VR105, 106	RVR-M0004SGZZ	10K ohm (B), VU Meter Sensitivity Adjust	AC
VR451, 452	RVR-M0004SGZZ	10K ohm (B) Bias Current Adjust	AC
VR501 (A,B)	RVR-Z0100AFZZ	10K ohm (B), Echo	AS
VR503 (A,B)		50K ohm (Z), Mic Fader	
VR504 (A,B)		50K ohm (Z), Tape Fader	
VR505 (A,B)		100K ohm (A), Treble Tone	
VR506 (A,B)		100K ohm (A), Bass Tone	
VR507		100K ohm (Z), Balance	
VR508 (A,B)	RVR-B0243AFZZ	20K ohm (B), Volume	AH
VR801, 802	RVR-A0161AFZZ	10K ohm (A), Super Woofer Sound	AD
C4, 5, C19, 20, C53, 56, C61, 69	RVC-R0071AFZZ	Variable Capacitors, Tuning with Trimmers C4: FM RF Trimmer C19: FM Local Oscillator Trimmer C56: MW Antenna Oscillator Trimmer C69: MW Antenna Oscillator Trimmer	AN
C54, 58	RTO-H2058AFZZ	C54: SW Antenna Trimmer C58: LW Antenna Trimmer	AD
C60	RVC-Z0050AFZZ	Variable Capacitor, Fine Tuning	AG
C67	RTO-H1073AFZZ	SW Local Oscillator Trimmer	AC
C71	RTO-H1073AFZZ	LW Local Oscillator Trimmer	AC

ELECTROLYTIC CAPACITORS

REF. NO.	PART NO.	DESCRIPTION	CODE
C14	RC-EZV106AF1H	10MFD, 50V, ±20%	AB
C23, 30	RC-EZV105AF1H	1MFD, 50V, ±20%	AB
C32	RC-EZV476AF1C	47MFD, 16V, ±20%	AB
C36	RC-EZV475AF1H	4.7MFD, 50V, ±20%	AB
C37, 39	RC-EZV335AF1H	3.3MFD, 50V, ±20%	AB
C40	VCEALV1HW474M	.47MFD, 50V, ±20%	AB
C41	VCEALV1HW224M	.22MFD, 50V, ±20%	AB
C43	RC-EZV337AF1C	330MFD, 16V, ±20%	AC
C49, 52	RC-EZV475AF1H	4.7MFD, 50V, ±20%	AB
C82	RC-EZV475AF1H	4.7MFD, 50V, ±20%	AB
C88	RC-EZV107AF1A	100MFD, 10V, ±20%	AB
C91	VCEALV1HW104M	.1MFD, 50V, ±20%	AB
C93	RC-EZV107AF1A	100MFD, 10V, ±20%	AB
C101, 102	VCAATA0JF475X	4.7MFD, 6.3V, +40–20%, Alumnum	AC
C109, 110	RC-EZA107AF1A	100MFD, 10V, ±20%	AB
C111, 112	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C117, 118	RC-EZA105AF1H	1MFD, 50V, ±20%	AB
C119, 120	RC-EZA476AF1A	47MFD, 10V, ±20%	AB
C121	RC-EZA227AF1A	220MFD, 10V, ±20%	AB
C122	RC-EZV477AF1C	470MFD, 16V, ±20%	AC
C123	RC-EZA475AF1E	4.7MFD, 25V, ±20%	AB
C124	RC-EZA107AF1C	100MFD, 16V, ±20%	AB
C125	RC-EZA105AF1H	1MFD, 50V, ±20%	AB
C141, 142	VCAATA0JF475X	4.7MFD, 6.3V, +40–20%, Alumnum	AC
C149, 150	RC-EZA107AF1A	100MFD, 10V, ±20%	AB
C151, 152	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C157	RC-EZA227AF1A	220MFD, 10V, ±20%	AB
C158	RC-EZV477AF1C	470MFD, 16V, ±20%	AC
C161	RC-EZA475AF1E	4.7MFD, 25V, ±20%	AB
C171, 172	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C175, 176, C179, 180	RC-EZA226AF1C	22MFD, 16V, ±20%	AG
C183, 184, C187, 188	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C189, 190	RC-EZA105AF1H	1MFD, 50V, ±20%	AB
C191	RC-EZA226AF1C	22MFD, 16V, ±20%	AG
C192	RC-EZA107AF1A	100MFD, 10V, ±20%	AB
C193	RC-EZV108AF1C	1000MFD, 16V, ±20%	AD
C194	RC-EZA107AF1C	100MFD, 16V, ±20%	AB
C195, 196	RC-EZA475AF1E	4.7MFD, 25V, ±20%	AB
C201, 202	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C203	RC-EZA476AF1C	47MFD, 16V, ±20%	AB
C205	RC-EZA107AF1E	100MFD, 25V, ±20%	AC
C207	RC-EZA475AF1E	4.7MFD, 25V, ±20%	AB
C208	RC-EZA226AF1C	22MFD, 16V, ±20%	AG
C273, 274, C275, 276, C277, 278, C283, 284	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C291	RC-EZA107AF1C	100MFD, 16V, ±20%	AB
C351, 352	RC-EZA105AF1H	1MFD, 50V, ±20%	AB
C353	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C357, 358	RC-EZA475AF1E	4.7MFD, 25V, ±20%	AB
C360	VCEALA1HW225M	2.2MFD, 50V, ±20%	AB
C361	VCEALA1HW334M	.33MFD, 50V, ±20%	AB
C365, 366	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C368	RC-EZA107AF1C	100MFD, 16V, ±20%	AB
C369	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C401, 402	RC-EZA475AF1E	4.7MFD, 25V, ±20%	AB
C403, 404	RC-EZA107AF1A	100MFD, 10V, ±20%	AB
C411, 412	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C415	RC-EZA476AF1C	47MFD, 16V, ±20%	AB
C416	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C417, 418	VCEALA1HW334M	.33MFD, 50V, ±20%	AB
C502	VCEALA1HW104M	.1MFD, 50V, ±20%	AB
C504	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C506	VCEALA1HW104M	.1MFD, 50V, ±20%	AB
C508	RC-EZA475AF1E	4.7MFD, 25V, ±20%	AB
C509	RC-EZA107AF1A	100MFD, 10V, ±20%	AB
C511	RC-EZA476AF1E	47MFD, 25V, ±20%	AB
C512	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C513	RC-EZA107AF1C	100MFD, 16V, ±20%	AB
C515	VCEALA1HW104M	.1MFD, 50V, ±20%	AB
C516	RC-EZV477AF1C	470MFD, 16V, ±20%	AC
C517, 518, C519, 520, C521, 522	RC-EZA107AF1A	100MFD, 10V, ±20%	AB
C535, 536, C541, 542	VCEALA1HW104M	.1MFD, 50V, ±20%	AB
C543	RC-EZA105AF1H	1MFD, 50V, ±20%	AB
C549, 550	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C603	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C604	VCEALA1CW106M	10MFD, 16V, ±20%	AB
C607	RC-EZA476AF1A	47MFD, 10V, ±20%	AB
C608	RC-EZA106AF1C	10MFD, 16V, ±20%	AB
C609	VCEALA1HW104M	.1MFD, 50V, ±20%	AB
C610	VCEALA1HW334M	.33MFD, 50V, ±20%	AB
C612	RC-EZA475AF1E	4.7MFD, 25V, ±20%	AB
C613	VCEALA1HW334M	.33MFD, 50V, ±20%	AB
C616	RC-EZA105AF1H	1MFD, 50V, ±20%	AB
C617	RC-EZA476AF1A	47MFD, 10V, ±20%	AB
C700, 701	RC-EZV476AF1E	47MFD, 25V, ±20%	AB
C702, 704	RC-EZV476AF1C	47MFD, 16V, ±20%	AB
C705	RC-EZV107AF1C	100MFD, 16V, ±20%	AB
C803, 804, C805, 806	RC-EZV107AF1A	100MFD, 10V, ±20%	AB
C807, 808	RC-EZV107AF1C	100MFD, 16V, ±20%	AB
C809, 810	RC-EZV108AF1C	1000MFD, 16V, ±20%	AD
C814	RC-EZW338AF1E	3300MFD, 25V, ±20%	AH
C819, 820	VCEALV1HW334M	.33MFD, 50V, ±20%	AB
C823, 824	RC-EZV107AF1A	100MFD, 10V, ±20%	AB
C825, 826	RC-EZV107AF1C	100MFD, 16V, ±20%	AB
C830	RC-EZV107AF1A	100MFD, 10V, ±20%	AB
C831, 832	RC-EZV108AF1C	1000MFD, 16V, ±20%	AD
C838	RC-EZV476AF1A	47MFD, 10V, ±20%	AB
C840	RC-EZV106AF1C	10MFD, 16V, ±20%	AB
C842	RC-EZV105AF1H	1MFD, 50V, ±20%	AB
C843	RC-EZV476AF1E	47MFD, 25V, ±20%	AB
C950, 951	VCE9AU1EW475M	4.7MFD, 25V, ±20%, Non-polar	AC

CAPACITORS

* Square type ceramic capacitor is identified by the symbol TP of the part No. VCKYTPOOOOOOO; this TP does not mean the lead wire.

* Tubular type ceramic capacitor is identified by the symbol MF of the part No. VCKYMFOOOOOOO; this MF does not means the lead wire.

REF. NO.	PART NO.	DESCRIPTION	CODE
C1	VCKYTP1HB472K	.0047MFD, 50V, ±10%	AB
C2	VCCSTP1HL3R0C	3PF, 50V, ±0.25PF	AA
C3	VCCSTP1HL270J	27PF, 50V, ±5%	AA
C6, 7	VCKYTP1HB472K	.0047MFD, 50V, ±10%	AB
C8	VCCSTP1HL5R0C	5PF, 50V, ±0.25PF	AA
C9	VCCSTP1HL2R0C	2PF, 50V, ±0.25PF	AA
C10	VCCCTP1HH1R2C	1.2PF (CH), 50V, ±0.25PF	AA
C11	VCKYTP1EB223K	.022MFD, 25V, ±10%	AB
C12	VCKYTP1HB472K	.0047MFD, 50V, ±10%	AB
C13	VCKYTP1HF103Z	.01MFD, 50V, +80–20%	AA
C15	VCKYTP1HB472K	.0047MFD, 50V, ±10%	AB
C16	VCCUTP1HJ150J	15PF (UJ), 50V, ±5%	AA
C17	VCCCTP1HH150J	15PF (CH), 50V, ±5%	AA
C18	VCCCTP1HH220J	22PF (CH), 50V, ±5%	AA
C21	VCCCTP1HH180J	18PF (CH), 50V, ±5%	AA
C22	VCCCTP1HH6R0D	6PF (CH), 50V, ±0.5PF	AA
C24	VCKYTP1HD223M	.022MFD, 50V, ±20%	AB
C25, 26	VCKYTP1HF103Z	.01MFD, 50V, +80–20%	AA
C27	VCKYTP1EB223K	.022MFD, 25V, ±10%	AB
C28, 29	VCKYTP1HF103Z	.01MFD, 50V, +80–20%	AA
C31	VCCCTP1HH100D	10PF (CH), 50V, ±0.5PF	AA
C33	VCKYTP1EB223K	.022MFD, 25V, ±10%	AB
C34	VCKYTP1HF223Z	.022MFD, 50V, +80–20%	AA
C35	VCCSTP1HL221J	220PF, 50V, ±5%	AA
C38	VCKYTP1ED473M	.047MFD, 25V, ±20%	AB
C42	VCQSMV1HL471J	470PF, 50V, ±5%, Styrol	AB
C44, 45	VCKYTP1HF223Z	.022MFD, 50V, +80–20%	AA
C46	VCKYTP1HF103Z	.01MFD, 50V, +80–20%	AA
C47	VCKYTP1HB471K	470PF, 50V, ±10%	AA
C48, 50	VCKYTP1HD153M	.015MFD, 50V, ±20%	AB
C51	VCKYTP1HB471K	470PF, 50V, ±10%	AA
C55	VCCSTP1HL5R0C	5PF, 50V, ±0.25PF	AA
C57	VCCSTP1HL5R0C	5PF, 50V, ±0.25PF	AA
C59	VCCCTP1HH4R0C	4PF (CH), 50V, ±0.25PF	AA
C62	VCCCTP1HH221J	220PF (CH), 50V, ±5%	AB
C64	VCCCTP1HH271J	270PF (CH), 50V, ±5%	AB
C65	VCKYTP1HB332K	.0033MFD, 50V, ±10%	AA
C68	VCCCTP1HH7R0C	7PF (CH), 50V, ±0.25PF	AA
C70	VCCCTP1HH100D	10PF (CH), 50V, ±0.5PF	AA
C72	VCKYTP1HF223Z	.022MFD, 50V, +80–20%	AA
C73	VCKYTP1HB102K	.001MFD, 50V, ±10%	AA
C74	VCKYTP1HF223Z	.022MFD, 50V, +80–20%	AA
C75	VCKYTP1EB223K	.022MFD, 25V, ±10%	AB
C76	VCKYTP1ED473M	.047MFD, 25V, ±20%	
C77	VCKYTP1EB223K	.022MFD, 25V, ±10%	AB
C78	VCKYTP1HF103Z	.01MFD, 50V, +80–20%	AA
C79	VCKYTP1HF223Z	.022MFD, 50V, +80–20%	AA
C80	VCCSTP1HL330J	33PF, 50V, ±5%	AA
C81, 83	VCKYTP1HF223Z	.022MFD, 50V, +80–20%	AA
C84	VCKYTP1HF222Z	.0022MFD, 50V, +80–20%	AA
C85, 86, 87	VCKYTP1HF223Z	.022MFD, 50V, +80–20%	AA
C89, 90	VCKYTP1HD103M	.01MFD, 50V, ±20%	AA
C92	VCKYTP1HF103Z	.01MFD, 50V, +80–20%	AA
C94	VCKYTP1HD223M	.022MFD, 50V, ±20%	AB
C95	VCCSTP1HL5R0C	5PF, 50V, ±0.25PF, Cermaic	AA
C96	VCCSPV1HL470J	47PF, 50V, ±5%, Ceramic	
C97	VCCCTP1HH151J	150PF (CH), 50V, ±5%	
C98	VCKYTP1ED333M	.033MFD, 25V, ±20%	
C103, 104	VCKYMF1HB681K	680PF, 50V, ±10%	AA
C105, 106	VCKYMF1HB221K	220PF, 50V, ±10%	AA
C107, 108	VCCSMF1HL330J	33PF, 50V, ±5%	AA
C113, 114	VCTYMF1EX562K	.0056MFD, 25V, ±10%	AA
C115, 116	VCTYPA1EX183K	.018MFD, 25V, ±10%, Semiconductor	AA
C143, 144	VCKYMF1HB681K	680PF, 50V, ±10%	AA
C145, 146	VCKYMF1HB221K	220PF, 50V, ±10%	AA
C147, 148	VCCSMF1HL330J	33PF, 50V, ±5%	AA
C153, 154	VCTYMF1EX562K	.0056MFD, 25V, ±10%	AA
C155, 156	VCKYMF1HB331K	330PF, 50V, ±10%	AA
C159, 160	VCTYPA1EX183K	.018MFD, 25V, ±10% Semiconductor	AA
C173, 174	VCKYMF1HB561K	560PF, 50V, ±10%	AA
C177, 178, C181, 182	VCCSMF1HL101J	100PF, 50V, ±5%	AA
C185, 186	VCTYMF1EX103K	.01MFD, 25V, ±10%	AA
C197, 198	VCTYMF1HV332K	.0033MFD, 50V, ±10%	AA
C199, 200	VCKYMF1HB391K	390PF, 50V, ±10%	AA
C204, 206	VCTYMF1EX103N	.01MFD, 25V, ±30%	AA
C271, 272	VCKYMF1HB102K	.001MFD, 50V, ±10%	AA
C279, 280	VCQYKA1HM183K	.018MFD, 50V, ±10% Mylar	AA
C281, 282	VCQYKA1HM223K	.022MFD, 50V, ±10%, Mylar	AB
C285, 286	VCQYKA1HM183K	.018MFD, 50V, ±10%, Mylar	AA
C287, 288	VCQYKA1HM333K	.033MFD, 50V, ±10%, Mylar	AB
C289, 290	VCKYMF1HB681K	680PF, 50V, ±10%	AA
C292	VCTYMF1EX103N	.01MFD, 25V, ±30%	AA
C293	VCTYMF1EX103N	.01MFD, 25V, ±30%	AB
C355, 356	VCKYMF1HB271K	270PF, 50V, ±10%	AA
C359, 362	VCTYMF1CY223N	.022MFD, 16V, ±30%	AA
C363	VCTYMF1HV222K	.0022MFD, 50V, ±10%	AA
C364	VCTYMF1HV392K	.0039MFD, 50V, ±10%	AA
C367	VCKYMF1HB271K	270PF, 50V, ±10%	AA
C405, 406	VCKYMF1HB221K	220PF, 50V, ±10%	AA
C407, 408	VCQYKA1HM273K	.027MFD, 50V, ±10%, Mylar	AB
C409, 410	VCTYMF1EX822K	.0082MFD, 25V, ±10%	AA
C501	VCTYMF1EX103N	.01MFD, 25V, ±30%	AA
C503	VCKYMF1HB331K	330PF, 50V, ±10%	AA
C507	VCTYMF1EX682N	.0068MFD, 25V, ±30%	AA
C510	VCKYMF1HB331K	330PF, 50V, ±10%	AA
C514	VCQYKW1HM104M	.1MFD, 50V, ±20%, Mylar	AB
C529, 530	VCTYMF1HV152K	.0015MFD, 50V, ±10%	AA
C531, 532, C533, 534	VCTYPA1EX153K	.015MFD, 25V, ±10%, Semiconductor	AA
C537, 538	VCTYPA1EX473K	.047MFD, 25V, ±10%, Semiconductor	AB
C539, 540	VCTYMF1HV332K	.0033MFD, 50V, ±10%	AA

REF. NO.	PART NO.	DESCRIPTION	CODE
C544	VCTYPA1EX393K	.039MFD, 25V, ±10% Semiconductor	AB
C545, 546	VCKYMF1HB561K	560PF, 50V, ±10%	AA
C547, 548	VCKYPA1HB472M	.0047MFD, 50V, ±20%, Ceramic	
C601	VCKYMF1HB561K	560PF, 50V, ±10%	AA
C602	VCCSMF1HL101J	100PF, 50V, ±5%	AA
C605	VCCSMF1HL220J	22PF, 50V, ±5%	AA
C606	VCTYMF1CY223N	.022MFD, 16V, ±30%	AA
C611	VCKYMF1HB102K	.001MFD, 50V, ±10%	AA
C614, 615	VCTYMF1EX103N	.01MFD, 25V, ±30%	AA
C706	VCCSPV1HL471J	470PF, 50V, ±5%, Ceramic	AB
C707, 708	VCKZPV1HF223Z	.022MFD, 50V, +80–20%, Ceramic	AA
C801, 802	VCKYAT1HB471K	470PF, 50V, ±10%, Ceramic	AA
C811	VCTYPV1EX104M	.1MFD, 25V, ±20%, Semiconductor	AB
C827	VCTYPV1EX104M	.1MFD, 25V, ±20%, Semiconductor	AB
C833	VCQPKQ2AA122J	.0012MFD, 100V, ±5%, Polypropylene	AB
C834	VCQPKQ2AA392J	.0039MFD, 100V, ±5%, Polypropylene	AB
C835	VCQPKV2AA223J	.022MFD, 100V, ±5%, Polypropylene	AB
C836	VCQPKQ2AA272J	.0027MFD, 100V, ±5%, Polypropylene	AB
C837, 839, C841	VCTYAT1EX103N	.01MFD, 25V, ±30%, Semiconductor	AA
C844	VCQPKQ2AA332J	.0033MFD, 100V, ±5%, Polypropylene	AB
C847	VCTYAT1CY223N	.022MFD, 16V, ±30%, Semiconductor	AA
C848	VCKZPV1HF223Z	.022MFD, 50V, +80–20%, Ceramic	AA
C849, 850, C851, 852	VCTYPV1EX104M	.1MFD, 25V, ±20%, Semiconductor	AB
C900, 901, C902, 903	VCKZPV1HF104Z	.1MFD, 50V, +80–20%, Ceramic	AC

RESISTORS

* Square type oxide metal film resistor (1/8W, ±5%) is identified by the symbol TP of the part No. VRS-TPOOOOOOO; this TP does not mean the lead wire.

* Tubular type carbon film resistor (1/4W, ±5%) is identified by the symbol MF of the part No. VRD-MFOOOOOOO; this MF does not mean the lead wire.

REF. NO.	PART NO.	DESCRIPTION	CODE
R1	VRS-TP2BB223J	22K ohm	AA
R2	VRS-TP2BB330J	33 ohm	
R3	VRS-TP2BB823J	82K ohm	
R4, 5	VRS-TP2BB101J	100 ohm	
R6	VRS-TP2BB102J	1K ohm	
R7	VRS-TP2BB394J	390K ohm	
R8	VRS-TP2BB102J	1K ohm	
R9	VRS-TP2BB471J	470 ohm	
R10	VRS-TP2BB562J	5.6K ohm	
R11	VRS-TP2BB104J	100K ohm	
R12	VRS-TP2BB103J	10K ohm	
R13	VRS-TP2BB104J	100K ohm	
R14	VRS-TP2BB334J	330K ohm	
R15	VRS-TP2BB221J	220 ohm	
R16	VRS-TP2BB102J	1K ohm	
R17	VRS-TP2BB474J	470K ohm	
R18	VRS-TP2BB102J	1K ohm	
R19	VRS-TP2BB221J	220 ohm	
R20	VRS-TP2BB103J	10K ohm	
R22	VRD-ST2EE221J	220 ohm, 1/4W, ±5%, Carbon	
R23	VRS-TP2BB332J	3.3K ohm	
R24	VRS-TP2BB474J	470K ohm	
R25	VRS-TP2BB392J	3.9K ohm	AA
R26	VRS-TP2BB183J	18K ohm	
R28	VRS-TP2BB153J	15K ohm	
R29	VRS-TP2BB471J	470 ohm	
R30	VRS-TP2BB102J	1K ohm	
R31	VRS-TP2BB561J	560 ohm	
R32	VRS-TP2BB332J	3.3K ohm	
R33, 34	VRS-TP2BB152J	1.5K ohm	
R35, 36	VRS-ST2BB103J	10K ohm	
R37	VRS-TP2BB332J	3.3K ohm	
R38, 39	VRS-TP2BB152J	1.5K ohm	
R40, 41	VRS-TP2BB103J	10K ohm	
R42	VRD-ST2EE221J	220 ohm, 1/4W, ±5%, Carbon	
R43	VRD-ST2EE271J	270 ohm, 1/4W, ±5%, Carbon	
R44	VRS-TP2BB102J	1K ohm	
R45	VRS-TP2BB101J	100 ohm	
R47	VRS-TP2BB332J	3.3K ohm	
R48	VRS-TP2BB100J	10 ohm	
R49	VRS-TP2BB823J	82K ohm	
R50	VRS-TP2BB274J	270K ohm	
R51	VRD-RE2EE100J	10 ohm, 1/4W, ±5%, Carbon	
R52	VRS-TP2BB122J	1.2K ohm	
R53, 54	VRS-TP2BB102J	1K ohm	
R55	VRS-TP2BB681J	680 ohm	
R56	VRS-TP2BB121J	120 ohm	
R57	VRS-TP2BB100J	10 ohm	
R58	VRS-TP2BB274J	270K ohm	
R59	VRS-TP2BB102J	1K ohm	
R60	VRS-TP2BB103J	10K ohm	
R61	VRS-TP2BB222J	2.2K ohm	
R62	VRS-TP2BB391J	390 ohm	
R63	VRS-TP2BB152J	1.5K ohm	
R64	VRS-TP2BB334J	330K ohm	
R65	VRS-TP2BB471J	470 ohm	
R66	VRS-TP2BB221J	220 ohm	
R67	VRS-TP2BB102J	1K ohm	
R68	VRS-TP2BB563J	56K ohm	
R69	VRS-TP2BB123J	12K ohm	
R70	VRS-TP2BB562J	5.6K ohm	
R71	VRS-TP2BB471J	470 ohm	
R72	VRS-TP2BB182J	1.8K ohm	
R73	VRS-TP2BB822J	8.2K ohm	
R74	VRS-TP2BB332J	3.3K ohm	
R75	VRS-TP2BB473J	47K ohm	
R76	VRD-ST2EE271J	270 ohm, 1/4W, ±5%, Carbon	
R77	VRS-TP2BB103J	10K ohm	
R78	VRS-TP2BB471J	470 ohm	
R79	VRS-TP2BB473J	47K ohm	
R101, 102	VRD-MF2EE563J	56K ohm	
R103, 104	VRD-MF2EE221J	220 ohm	
R105, 106	VRD-MF2EE682J	6.8K ohm	
R107, 108	VRD-MF2EE224J	220K ohm	
R109, 110	VRD-MF2EE102J	1K ohm	
R111, 112	VRD-MF2EE223J	22K ohm	
R113, 114	VRD-MF2EE564J	560K ohm	
R115, 116	VRD-MF2EE104J	100K ohm	
R117, 118	VRD-MF2EE562J	5.6K ohm	
R119, 120	VRD-MF2EE332J	3.3K ohm	
R121, 122	VRD-MF2EE272J	2.7K ohm	
R123, 124	VRD-MF2EE102J	1K ohm	
R125, 126	VRD-MF2EE104J	100K ohm	
R127, 128	VRD-MF2EE331J	330 ohm	
R129, 130	VRD-MF2EE224J	220K ohm	
R131	VRD-MF2EE102J	1K ohm	
R132	VRD-ST2EE221J	220 ohm, 1/4W, ±5%, Carbon	
R134	VRD-MF2EE332J	3.3K ohm	
R135	VRD-MF2EE273J	27K ohm	
R139, 140	VRD-MF2EE102J	1K ohm	

REF. NO.	PART NO.	DESCRIPTION	CODE
R141, 142	VRD-MF2EE563J	56K ohm	AA
R143, 144	VRD-MF2EE331J	330 ohm	
R145, 146	VRD-MF2EE682J	6.8K ohm	
R147, 148	VRD-MF2EE224J	220K ohm	
R149, 150	VRD-MF2EE102J	1K ohm	
R151, 152	VRD-MF2EE564J	560K ohm	
R153, 154	VRD-MF2EE473J	47K ohm	
R155, 156	VRD-MF2EE223J	22K ohm	
R159	VRD-MF2EE273J	27K ohm	
R160	VRD-MF2EE102J	1K ohm	
R161, 162	VRD-MF2EE332J	3.3K ohm	
R165, 166	VRD-MF2EE272J	2.7K ohm	
R176	VRD-MF2EE152J	1.5K ohm	
R179, 180	VRD-MF2EE102J	1K ohm	
R187, 188	VRD-MF2EE472J	4.7K ohm	
R189, 190	VRD-MF2EE154J	150K ohm	
R191, 192	VRD-MF2EE221J	220 ohm	
R193, 194	VRD-MF2EE473J	47K ohm	
R195, 196	VRD-MF2EE102J	1K ohm	
R197, 198	VRD-MF2EE222J	2.2K ohm	
R199, 200	VRD-MF2EE152J	1.5K ohm	
R201, 202	VRD-MF2EE103J	10K ohm	
R203, 204	VRD-MF2EE821J	820 ohm	
R207	VRS-PT3AB680K	68 ohm, 1W, ±10%, Metal Oxide Filme	
R209	VRD-MF2EE564J	560K ohm	
R211	VRD-MF2EE103J	10K ohm	
R212	VRD-ST2EE221J	220 ohm, 1/4W, ±5%, Carbon	
R213, 214	VRD-MF2EE562J	5.6K ohm	
R215, 216	VRD-MF2EE684J	680K ohm	
R217, 218	VRD-MF2EE102J	1K ohm	
R221	VRD-MF2EE273J	27K ohm	
R222	VRD-MF2EE122J	1.2K ohm	
R223	VRD-MF2EE102J	1K ohm	
R241, 242	VRD-MF2EE332J	3.3K ohm	
R243	VRD-ST2EE223J	22K ohm, 1/4W, ±5%, Carbon	
R273, 274	VRD-MF2EE392J	3.9K ohm	
R275, 276	VRD-MF2EE223J	22K ohm	
R277, 278	VRD-MF2EE103J	10K ohm	
R279, 280	VRD-MF2EE332J	3.3K ohm	
R281, 282	VRD-MF2EE123J	12K ohm	
R283, 284	VRD-MF2EE822J	8.2K ohm	
R285, 286	VRD-MF2EE151J	150 ohm	
R287, 288	VRD-MF2EE563J	56K ohm	
R289, 290	VRD-MF2EE271J	270 ohm	
R291, 292	VRD-MF2EE121J	120 ohm	
R293, 294	VRD-MF2EE562J	5.6K ohm	
R295, 296	VRD-MF2EE472J	4.7K ohm	
R297	VRS-PT3AB680K	68 ohm, 1W, ±10%, Metal Oxide Filme	
R298	VRD-MF2EE182J	1.8K ohm	
R300, 301	VRD-MF2EE103J	10K ohm	
R302	VRD-MF2EE104J	100K ohm	
R303	VRD-MF2EE103J	10K ohm	
R304	VRD-MF2EE222J	2.2K ohm	
R305	VRD-MF2EE102J	1K ohm	
R306, 307, R313, 314	VRD-MF2EE103J	10K ohm	
R315, 316, R317, 318	VRD-MF2EE473J	47K ohm	
R319, 320	VRD-MF2EE223J	22K ohm	
R321, 322	VRD-MF2EE473J	47K ohm	
R323	VRD-MF2EE561J	560 ohm	
R325	VRD-MF2EE473J	47K ohm	
R331, 332	VRD-MF2EE102J	1K ohm	
R333, 334	VRD-MF2EE562J	5.6K ohm	
R335, 336	VRD-MF2EE472J	4.7K ohm	
R355, 356, R357, 358, R359, 360	VRD-MF2EE473J	47K ohm	AA
R361, 362	VRD-MF2EE472J	4.7K ohm	
R363, 364	VRD-MF2EE103J	10K ohm	
R365, 366	VRD-MF2EE473J	47K ohm	
R367	VRD-MF2EE102J	1K ohm	
R368	VRD-MF2EE123J	12K ohm	
R369	VRD-MF2EE273J	27K ohm	
R370	VRD-MF2EE104J	100K ohm	
R371	VRD-MF2EE334J	330K ohm	
R372	VRD-MF2EE472J	4.7K ohm	
R373	VRD-MF2EE154J	150K ohm	
R374	VRD-MF2EE103J	10K ohm	
R375, 376, R377	VRD-MF2EE104J	100K ohm	
R378	VRD-MF2EE332J	3.3K ohm	
R379	VRD-MF2EE103J	10K ohm	
R380	VRD-MF2EE332J	3.3K ohm	
R381	VRD-MF2EE103J	10K ohm	
R382	VRD-MF2EE472J	4.7K ohm	
R401, 402	VRD-MF2EE473J	47K ohm	
R403, 404	VRD-MF2EE222J	2.2K ohm	
R405, 406	VRD-MF2EE151J	150 ohm	
R407, 408	VRD-MF2EE273J	27K ohm	
R409, 410	VRD-MF2EE823J	82K ohm	
R411, 412	VRD-MF2EE103J	10K ohm	
R415, 416	VRD-MF2EE223J	22K ohm	
R419, 420	VRD-MF2EE102J	1K ohm	
R421, 422	VRD-MF2EE152J	1.5K ohm	
R424	VRD-MF2EE182J	1.8K ohm	
R425, 426	VRD-MF2EE472J	4.7K ohm	
R427, 428	VRD-MF2EE102J	1K ohm	
R431	VRD-MF2EE681J	680 ohm	
R453, 454	VRD-MF2EE100J	10 ohm	
R455	VRD-MF2EE1R0J	1 ohm	
R501	VRD-MF2EE471J	470 ohm	
R502	VRD-MF2EE271J	270 ohm	
R503	VRD-MF2EE102J	1K ohm	
R504	VRD-MF2EE474J	470K ohm	
R505	VRD-MF2EE222J	2.2K ohm	
R507	VRD-MF2EE330J	33 ohm	
R508	VRD-MF2EE473J	47K ohm	
R509	VRD-MF2EE154J	150K ohm	
R510	VRD-MF2EE124J	120K ohm	
R511	VRD-MF2EE471J	470 ohm	
R512	VRS-PT3AB8R2K	8.2 ohm, 1W, ±10%, Metal Oxide Film	
R513, 514, R515, 516	VRD-MF2EE472J	4.7K ohm	
R517, 518	VRD-MF2EE183J	18K ohm	
R525, 526	VRD-MF2EE183J	18K ohm	
R527, 528	VRD-MF2EE184J	180K ohm	
R529, 530, R531, 532	VRD-MF2EE123J	12K ohm	
R533, 534	VRD-MF2EE223J	22K ohm	
R535, 536	VRD-MF2EE222J	2.2K ohm	
R537, 538	VRD-MF2EE272J	2.7K ohm	
R539, 540, R541, 542	VRD-MF2EE332J	3.3K ohm	
R543	VRS-PT3AB3R3K	3.3 ohm, 1W, ±10%, Metal Oxide Filme	
R544	VRD-MF2EE331J	330 ohm	
R548	VRD-RU2EE332J	3.3K ohm, 1/4W, ±5%, Carbon	
R600	VRD-MF2EE821J	820 ohm	
R602	VRD-MF2EE271J	270 ohm	
R603	VRD-MF2EE103J	10K ohm	
R604	VRD-MF2EE271J	270 ohm	

REF. NO.	PART NO.	DESCRIPTION	CODE
R605	VRD-MF2EE183J	18K ohm	AA
R606	VRD-MF2EE562J	5.6K ohm	
R607	VRD-MF2EE101J	100 ohm	
R608	VRD-MF2EE223J	22K ohm	
R609	VRD-MF2EE222J	2.2K ohm	
R610, 611	VRD-MF2EE272J	2.7K ohm	
R612, 613, R614	VRD-MF2EE102J	1K ohm	
R615	VRD-MF2EE683J	68K ohm	
R616	VRD-MF2EE332J	3.3K ohm	
R617	VRD-MF2EE681J	680 ohm	
R618	VRD-MF2EE222J	2.2K ohm	
R619	VRD-MF2EE104J	100K ohm	
R620	VRD-MF2EE103J	10K ohm	
R621	VRD-MF2EE101J	100 ohm	
R622	VRD-MF2EE103J	10K ohm	
R623	VRD-MF2EE102J	1K ohm	
R624	VRD-MF2EE561J	560 ohm	
R625	VRD-MF2EE562J	5.6K ohm	
R626	VRD-MF2EE222J	2.2K ohm	
R627, 629	VRD-MF2EE103J	10K ohm	
R630	VRD-MF2EE682J	6.8K ohm	
R631	VRD-MF2EE561J	560 ohm	
R632	VRD-MF2EE103J	10K ohm	
R633	VRD-MF2EE102J	1K ohm	
R700	VRD-ST2EE333J	33K ohm, 1/4W, ±5%, Carbon	
R701	VRD-ST2EE103J	10K ohm, 1/4W, ±5%, Carbon	
R702, 703	VRD-ST2EE102J	1K ohm, 1/4W, ±5%, Carbon	
R704	VRD-ST2EE563J	56K ohm, 1/4W, ±5%, Carbon	
R705, 706	VRD-ST2EE102J	1K ohm, 1/4W, ±5%, Carbon	
R707	VRD-ST2EE331J	330 ohm, 1/4W, ±5%, Carbon	
R708	VRD-ST2EE474J	470K ohm, 1/4W, ±5%, Carbon	
R709	RR-XZ1027AFZZ	2.2 ohm, 1/11W, ±2%, Fusible	
R801, 802	VRD-ST2EE333J	33K ohm, 1/4W, ±5%, Carbon	
R803, 804	VRD-ST2EE151J	150 ohm, 1/4W, ±5%, Carbon	
R805, 806	VRD-ST2EE221J	220 ohm, 1/4W, ±5%, Carbon	
R811, 812	VRD-ST2EE222J	2.2K ohm, 1/4W, ±5%, Carbon	
R813, 814	VRD-ST2EE333J	33K ohm, 1/4W, ±5%, Carbon	
R815, 816	VRD-ST2EE151J	150 ohm, 1/4W, ±5%, Carbon	
R817, 818	VRD-ST2EE563J	56K ohm, 1/4W, ±5%, Carbon	
R819	VRD-ST2EE271J	270 ohm, 1/4W, ±5%, Carbon	
R821	VRD-ST2EE123J	12K ohm, 1/4W, ±5%, Carbon	
R822, 823	VRD-ST2EE120J	12 ohm, 1/4W, ±5%, Carbon	
R826, 827	VRD-ST2EE102J	1K ohm, 1/4W, ±5%, Carbon	
R828	VRD-ST2EE152J	1.5K ohm, 1/4W, ±5%, Carbon	
R833	VRD-ST2EE102J	1K ohm, 1/4W, ±5%, Carbon	
R835	VRD-ST2EE123J	12K ohm, 1/4W, ±5%, Carbon	
R836	VRD-ST2EE122J	1.2K ohm, 1/4W, ±5%, Carbon	
	VRS-TP2BB000C	0 ohm, 1/8W, ±0.25 ohm, Jumper	
	VRD-MF2EE000C	0 ohm, 1/4W, ±0.25 ohm, Jumper	

MECHANICAL PARTS

REF. NO.	PART NO.	DESCRIPTION	CODE
001	JKNBP0126AFSA	Key, Deck 1 Cassette Ejection	AE
002	JKNBP0127AFSA	Key, Stop	AE
003	JKNBP0128AFSA	Key, Cut	AE
004	JKNBP0129AFSA	Key, Pause	AE
005	JKNBP0130AFSA	Key, Deck 2 Playback	AE
006	JKNBP0131AFSA	Key, Rewind/Review	AE
007	JKNBP0132AFSA	Key, Deck 2 Fast Forward Wind/Cue	AE
008	JKNBP0133AFSA	Key, Deck 1 Playback	AE
009	JKNBP0134AFSA	Key, Deck 1 Fast Forward Wind/Cue	AE
010	JKNBP0135AFSA	Key, Deck 2 Editing	AE
011	JKNBP0136AFSA	Key, Deck 2 Record	AE
012	JKNBP0137AFSA	Key, Deck 2 Cassette Ejection	AE
013	LANGF0594AFZZ	Bracket, Motor Retaining	AH
014	LANGG0078AFZZ	Bracket, Sub Chassis Guide	AC
015	LANGK0250AFFW	Bracket, Deck 1 Button Block	AC
016	LANGK0258AFZZ	Bracket, Deck 2 Button Block	AF
017	LANGT0978AFZZ	Bracket, Head Base	AB
018	LBSHZ0072AFZZ	Cushion, Motor	AB
019	LCHSM0361AFZZ	Second Chassis (Deck 2)	
020	LCHSM0374AFZZ	Main Chassis	
021	LCHSS0159AFZZ	Sub Chassis	
022	LHLDW3056AFZZ	Wire Holder, 31mm	AA
023	LPINZ0051AFZZ	Pin, Pause Lever	AA
024	LSTWC2001AFZZ	Stop Ring, 2mm Dia	AA
025	LSTWC4004AFZZ	Stop Ring, 4mm Dia	AA
026	LX-BZ0219AFFD	Screw, Motor Retaining	AA
027	LX-HZ0056AFFD	Screw, 3mm Dia x t10mm	AA
028	LX-HZ0077AFZZ	Screw, 2.6mm Dia x t10mm	AA
029	LX-HZ0078AFZZ	Flange Screw, 2.6mm Dia x t12mm	AA
030	LX-HZ0079AFZZ	Screw, Record Interlocking	AA
031	LX-HZ0081AFZZ	Screw, 3mm Dia x t30mm	AA
032	LX-WZ0014AGFK	Lock Washer, 2.6mm Dia	AA
033	LX-WZ5018AGZZ	Washer, 2.1mm Dia	AA
034	LX-WZ5020AGZZ	Washer, 1.7mm Dia	AA
035	LX-WZ9053AFZZ	Washer, Oil Cut	AA
036	LX-WZ9063AFZZ	Washer, 1.5mm Dia	AA
037	LX-WZ9064AFZZ	Washer, 2mm Dia	AA
038	MCAMP0054AFZZ	Cam, Pause	AB
039	MLEVF1120AFZZ	Lever, P.A.D.	AD
040	MLEVF1199AFZZ	Lever, Tape Operation Selector Interlocking	AD
041	MLEVF1200AFZZ	Lever, Record Switch	AD
042	MLEVF1201AFZZ	Lever, Over Stroke	AC
043	MLEVF1202AFZZ	Lever, Deck 2 Pause Key Interlocking	AD
044	MLEVF1203AFZZ	Lever, Deck 2 Cassette Ejection Key Interlocking	AD AD
045	MLEVP0216AFZZ	Lever, Record	AB
046	MLEVP0217AFZZ	Lever, Playback	AB
047	MLEVP0218AFZZ	Lever, Rewind	AB
048	MLEVP0219AFZZ	Lever, Fast Forward	AC
049	MLEVP0220AFZZ	Lever, Pause	AB
050	MLEVP0221AFZZ	Lever, P.A.D. Lock	AB
051	MLEVP0222AFZZ	Lever, Auxiliary P.A.D. Lock	AB
052	MLEVP0223AFZZ	Lever, Start	AB
053	MLEVP0224AFZZ	Lever, Cassette Eject Prevention	AB
054	MLEVP0225AFZZ	Lever, Record Prevention	AB
055	MLEVP0226AFZZ	Lever, Lock Release	AB
056	MLEVP0227AFZZ	Lever, Brake Release	AB
057	MLEVP0228AFZZ	Lever, APLD Switch	AB
058	MLEVP0229AFZZ	Lever, Fast Forward/ Rewind Prevention	AB
059	MLEVP0230AFZZ	Lever, Record Sensor	AB
060	MLEVP0231AFZZ	Lever, Sub Chassis Lock	AB
061	MLEVP0232AFZZ	Lever, Playback Release	AB
062	MLEVP0233AFZZ	Lever, Brake	AB
063	MLEVP0234AFZZ	Lever, Auto Stop Control	AB
064	MLEVP0235AFZZ	Lever, Sensor	AB

REF. NO.	PART NO.	DESCRIPTION	CODE
065	MLEVP0236AFZZ	Lever, Erase Protector	AB
066	MLEVP0237AFZZ	Lever, Record Interlocking	AD
067	MLEVP0239AFZZ	Lever, Thrust	AC
068	MLEVP0240AFZZ	Lever, Main Button Block	AB
069	MLEVP0241AFZZ	Lever, Sub Button Block	AB
070	MLEVP0277AFZZ	Lever, Cassette Ejection	AC
071	MLEVP0278AFZZ	Lever, Deck 1 Cassette Ejection Key	AC
072	MLEVP0279AFZZ	Lever, Deck 1 Playback Key	AC
073	MLEVP0280AFZZ	Lever, Stop Key	AC
074	MLEVP0281AFZZ	Lever, Rewind Key	AC
075	MLEVP0282AFZZ	Lever, Cut Key	AC
076	MLEVP0283AFZZ	Lever, Fast Forward Key	AC
077	MLEVP0284AFZZ	Lever, Deck 1 Pause Key	AC
078	MLEVP0285AFZZ	Lever, Deck 2 Editing Key	AC
079	MLEVP0286AFZZ	Lever, Deck 2 Record Key	AC
080	MLEVP0287AFZZ	Lever, Deck 2 Playback Key	AC
081	MLEVP0288AFZZ	Detent Lever, Tape Operation Selector	AD
082	MLEVP0289AFZZ	Lever, Tape Operation Selector	AB
083	MLEVP0290AFZZ	Lever, Deck 1 to 2 Sequential Playback	AB
084	MSPRC0229AFFJ	Spring, Pause Lever Pin	AB
085	MSPRC0230AFFJ	Spring, Head Azimuth	AB
086	MSPRC0231AFFJ	Spring, Solenoid	AB
087	MSPRC0248AFFJ	Spring, Sensor Lever	AB
088	MSPRD0376AFFJ	Spring, Over Stroke	
089	MSPRD0312AFFJ	Spring, P.A.D. Lock Lever	AB
090	MSPRD0359AFFJ	Spring, Pinch Roller	AB
091	MSPRD0315AFFJ	Spring, Record Sensor Lever	AB
092	MSPRD0316AFFJ	Spring, Fast Forward/ Rewind Release	AB
093	MSPRD0318AFFJ	Spring, Pause Cam	AB
094	MSPRD0335AFFJ	Spring, Sub Chassis Lock	AB
095	MSPRD0344AFFJ	Detent Spring, Tape Operation Selector Lever	AA
096	MSPRD0348AFFJ	Spring, Pinch Roller Return	AA
097	MSPRD0349AFFJ	Spring, P.A.D. Gear	AB
098	MSPRP0251AFFJ	Plate Spring, Sub Chassis Retainer	AB
099	MSPRP0252AFFJ	Spring, Cassette Retainer	AB
100	MSPRP0269AFFJ	Plate Spring, Deck 1 Key Retainer	AB
101	MSPRP0270AFFJ	Plate Spring, Deck 2 Key Retainer	AB
102	MSPRT0739AFFJ	Spring, Record Prevention Lever	AB
103	MSPRT0740AFFJ	Spring, Auto Stop Control Lever	AB
104	MSPRT0741AFFJ	Spring, Brake Lever	AB
105	MSPRT0743AFFJ	Spring, Brake Release Lever	AB
106	MSPRT0744AFFJ	Spring, Cassette Lock Lever	AB
107	MSPRT0745AFFJ	Spring, Deck 1 Pause Lever	AB
108	MSPRT0746AFFJ	Spring, Playback Key Lever	AB
109	MSPRT0747AFFJ	Spring, Sub Chassis Return	AB
110	MSPRT0762AFFJ	Spring, Tape Operation Selector Lever	AA
111	MSPRT0763AFFJ	Spring, Record Switch Lever	AA
112	MSPRT0764AFFJ	Spring, Over Stroke Lever	AA
113	NBALS0006AGFJ	Steel Ball, 2mm Dia	AA
114	NBLTH0076AFZZ	Belt, Flywheel Drive	AC
115	NBLTK0184AFZZ	Belt, Playback	AB
116	NDAIR0150AFSA	Turntable, Take-up	AG
117	NDAIR0151AFSA	Turntable, Supply	AE
118	NFLYC0090AFZZ	Flywheel Assembly	AP
119	NGERH0066AFZZ	Gear, P.A.D.	AB
120	NGERH0067AFZZ	Gear, Playback	AE
121	NGERP0052AFZZ	Gear, Playback Drive	AD
122	NIDR-0073AFZZ	Idler, Playback	AD
123	NIDR-0074AFZZ	Idler, Rewind	AB
124	NPLYR0076AFZZ	Pulley, Playback	AB
125	NROLV0017AFZZ	Roller, Fast Forward	AF
126	NROLX0014AFZZ	Roller, Rewind	AF
127	NROLY0043AFZZ	Pinch Roller	AG
128	NSFTN0008AFFW	Shaft, Playback Pulley	AB
129	NSFTT0149AFFW	Shaft, Deck 2 Key Block	AD
130	NSFTT0154AFFW	Shaft, Deck 1 Key Block	AD
131	PGIDM0093AFZZ	Guide, Deck 2 Pause Button	AC
132	PGIDM0094AFZZ	Guide, Deck 2 Cassette Ejection Button	AC
133	PGUMR0052AFZZ	Cushion, P.A.D. Lever	AB
134	QCNW-0964AFZZ	Terminal Lug with Lead	AC
135	RHEDA0081AFZZ	Erase Head	AL
136	RHEDF0060AFZZ	Playback Head	AQ
137	RHEDH0089AFZZ	Record/Playback Head	AR
138	LSLVM0113AFFW	Stop Ring, Sensor Lever Retainer	AC
MO701, 702	RMOTV0099AFZZ	Motor	AV
SOL701	RPLU-0143AFZZ	Plunger Solenoid	AK
139	MSPRD0358AFFJ	Spring, Pause Lock Hold	AB
140	MSPRT0793AFFJ	Spring, Deck 2 Pause	AB
141	MSPRT0794AFFJ	Spring, Deck 2 Playback Arm	AB
142	LX-WZ9069AFZZ	Washer, 3mm Dia	AA
143	LX-WZ9070AFZZ	Washer, 4mm Dia	AA
144	LANGF0645AFFW	Bracket, Main Chassis Strengthen	AC
145	LANGF0646AFFW	Bracket, Motor Retaining Bracket Strengthen	AD
146	LCHSM0384AFZZ	Second Chassis (Deck 1)	

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION	CODE
201	GCAB-1091AFSA	Front Cabinet Assembly	BK
△ 201-2	HDECQ0134AFSA	Decoration Plate, Built-in Microphone	AD
● 201-3	HPNLC1334AFSA	Operation Panel, Front	AM
△ 202	GCABB1578AFSA	Rear Cabinet	BA
203	GFTAB1122AFSA	Lid, Battery Compartment	AE
204	GFTAC1153AFSA	Cassette Compartment	AK
205	GFTAC1154AFSA	Plate, Transparent, Cassette Compartment	AH
206	HBDGB3062AFSA	SHARP Badge	AE
207	HBDGS1052AFSA	Double Cassette Badge	AD
208	HDALM0336AFSA	Plate, Dial	AM
209	HDAP-0191AFSA	Back Plate, Dial	AE
210	HDECA0473AFSA	Decoration Plate, Cassette Compartment	AD
211	HDECB0157AFSA	Mirror, Cassette Compartment	AC
212	HDECQ0135AFSA	Decoration Plate, Cassette Compartment	AD
213	HDECQ0146AFSA	Decoration Plate, Deck 1 Cassette Compartment	AE
214	HDECQ0147AFSA	Decoration Plate, Deck 2 Cassette Compartment	AE
215	HDECQ0144AFSA	Scale, Cassette Compartment	AF
216	HGRL-1073AFSA	Decoration Grill, Speakers	AN
△ 217	HINDP0351AFSA	Label, Warning (GF-777H)	AC
	HINDP0359AFSA	Label, Warning (GF-777E)	
218	HPNC-0138AFSA	Punching Metal	AU
△ 219	HINDP0350AFSA	Label, Specifications (GF-777H)	AC
	HINDP0358AFSA	Label, Specifications (GF-777E)	AC
	HINDP0357AFSA	Label, Specifications (Helip)	
220	HSSND0277AFSA	Pointer	AD
221	JHNDA1054AFSA	Handle	AW

REF. NO.	PART NO.	DESCRIPTION	CODE
222	JKNBK0225AFSA	Knob, Volume Control	AF
223	JKNBK0226AFSA	Knob, Echo/Mic. Fader/ Tape Fader/Bass Tone Control/Treble Tone Control/Balance Control	AE
224	JKNBK0227AFSA	Knob, Recording Level Control (Large)	AE
225	JKNBK0228AFSA	Knob, Recording Level Control (Small)	AE
226	JKNBK0229AFSA	Knob, Super Woofer Sound	AC
227	JKNBM0392AFSA	Knob, Function Selector/ Recording Mode Selector/ Dubbing Switch/Tape Selector/Super Noise Reduction System Switch/Meter Indication Selector/FM Mode Mute Switch/Mic. Mixing/Loudness	AD
228	JKNBM0393AFSA	Knob, Tape Operation Mode Selector	AE
229	JKNBM0394AFSA	Knob, Power Switch	AE
230	JKNBN0480AFSA	Knob, Tuning Control	AL
231	JKNBZ0205AFSA	Knob, APLD Input Button	AK
232	KCOUB0108AFZZ	Digital Tape Counter	AK
233	LANGK0259AFFW	Bracket, Lever Retainer	AA
234	LANGK0260AFFW	Bracket, Jack Retaining	AB
235	LANGT1056AFFW	Bracket, Antenna Socket	AA
236	LANGT1018AFFW	Bracket, P.A. Board Retaining	AC
237	LHLDF1247AFZZ	Main Frame	AT
● 237-1	————	Main Frame Assembly	
238	LHLDF1248AFZZ	Sub Frame	AL
239	LHLDQ1052AFZZ	Holder, Power Switch	AE
240	LHLDW1068AFZZ	Nylon Band, 100mm	AA
241	LHLDW1072AFZZ	Wire Holder, 11.5mm Dia	AB
242	LHLDW1075AFZZ	Nylon Band, 60mm Dia	AA
243	LHLDW9003CEZZ	Wire Holder, 45mm	AA
244	LHLDX1054AFSA	Guide, Cassette Compartment	AG
245	LHLDZ1125AFZZ	Holder, Tweeter	AD
246	LHLDZ1149AFZZ	Holder, L.E.D.	AC
247	LHLDZ1150AFZZ	Holder, L.E.D.	AC
249	LX-CZ0002AFZZ	Screw, Cabinet Retaining	AB
250	MLEVP0291AFZZ	Lever, Record/Playback Selector	AC
251	MLEVP0292AFZZ	Lever, Cassette Comparment Lock	AC
252	MLEVP0296AFZZ	Lever, Tape Operation Selector	AC
253	MLIFP0011AFZZ	Damper, Cassette Compartment	AG
255	MSPRC0190AFFJ	Spring, Battery Terminal	AC
256	MSPRC0192AFFJ	Spring, Battery Terminal	AB
257	MSPRD0345AFFJ	Spring, Cassette Compartment	AB
258	MSPRT0304AFFJ	Spring, Dial Stringing	AA
259	MSPRT0765AFFJ	Spring, Cassette Compartment Lock Lever	AB
260	MSPRZ0056AFFJ	Spring, Cassette Compartment	AA
261	NBLTK0194AFZZ	Belt, Tape Counter Drive	AC
262	NDRM-0167AFZZ	Drum, Dial Stringing	AG
● 262-1	————	Drum Assembly	
263	NPLYD0052AFZZ	Pulley, Dial Stringing	AB
264	NPLYD0054AFZZ	Pulley, Dial Stringing	AB
265	NSFTD0210AFZZ	Shaft, Tuning Control	AH
267	PCOVZ7061AF00	Cover, Battery Compartment	AC
268	PCUSU0128AFZZ	Cushion, Coil	AA
269	PCUSU0231AF00	Cushion, Battery Compartment	AB
270	PFLT-0127AF00	Felt, Battery Compartment	AA
271	PGUMM0144AF00	Gum, Punching Metal Retainer	AA
272	PRDAR0252AFZZ	Heat Sink	AG
273	PTPEC0005AG00	Ribbon, Battery Compartment	
⚠	QACCK0050AFZZ	AC Supply Cord (GF-777H)	AL
⚠	QACCB0003AG0V	AC Supply Cord (GF-777E)	AK
274	QANTR0111AFZZ	FM Telescopic Aerial	AM
CNS2	QCNW-1082AFZZ	Socket, 3 Pin, with Leads	
CNP2	CCNCM361CAF02	Plug, 3 Pin, with Leads	
●	QCNCM361CAFZZ	Plug, 3 Pin	
	QCNTZ0050AFZZ	Tip, Wiring	
	QCNTZ0072AFZZ	Tip, Plug	
CNP702,802 CNP803,501	QCNCM0402SGZZ	Plug, 4 Pin	AB
CNP703	QCNCM0503SGZZ	Plug, 5 Pin	AC
CNP801	QCNCM0705SGZZ	Plug, 7 Pin	AC
CNP804	QCNCM095BAFZZ	Plug, 2 Pin	AB
CNP1	QCNCM1001AGZZ	Plug, 10 Pin	AC
CNP901	QCNCM131BAFZZ	Plug, 2 Pin	AC
CNP701,805	QCNCM136CAFZZ	Plug, 3 Pin	AB
CNP102	QCNCM398BAFZZ	Plug, 2 Pin	AB
CNP101	QCNCM399CAFZZ	Plug, 3 Pin	AB
CNP103	QCNCM400DAFZZ	Plug, 4 Pin	AB
CNS101	QCNW-0996AFZZ	Socket, 3 Pin with Wire Leads	AG
CNS103	QCNW-0997AFZZ	Socket, 4 Pin with Wire Leads	AG
CNS102	QCNW-0998AFZZ	Socket, 2 Pin with Wire Leads	AE
CNS803	QCNW-0999AFZZ	Socket, 4 Pin with Wire Leads	AE
CNS802	QCNW-1000AFZZ	Socket, 4 Pin with Wire Leads	AF
	QCNW-1002AFZZ	Jumper, 3 Leads, 460mm	AC
	QCNW-1004AFZZ	Jumper, 5 Leads, 320mm	AC
	QCNW-1005AFZZ	Jumper, 5 Leads, 80mm	AB
	QCNW-1006AFZZ	Jumper, 3 Leads, 80mm	AB
	QCNW-1008AFZZ	Jumper, 5 Leads, 500mm	AD
	QCNW-1009AFZZ	Jumper, 7 Leads, 60mm	AB
	QCNW-1031AFZZ	Jumper, 4 Leads, 260mm	AC
	QCNW-1032AFZZ	Jumper, 4 Leads, 520mm	AD
	QCNW-1036AFZZ	Jumper, 3 Leads, 60mm	AB
	QCNW-1037AFZZ	Jumper, 5 Leads, 60mm	AB
	QCNW-1038AFZZ	Jumper, 8 Leads, 60mm	AC
CNS501	QCNW-1228AFZZ	Socket 4 Pin/Plug 2 Pin x 2/ Plug 3 Pin/Plug 4 Pin with Wire Leads Assembly	AM
	QCNW-1216AFZZ	Jumper, 8 Leads, 80mm	AC
CNS804	QCNW-1217AFZZ	Socket 2 Pin/Plug 2 Pin x 2/ Plug 8 Pin with Wire Leads Assembly	AN
CNS702	QCNW-1218AFZZ	Socket, 4 Pin with Wire Leads	AF
CNS703	QCNW-1219AFZZ	Socket, 5 Pin with Wire Leads	AE
CNS1	QCNW-1220AFZZ	Socket 10 Pin/Plug 3 Pin/ Plug 4 Pin/Plug 7 Pin with Wire Leads Assembly	AL
CNS805	QCNW-1221AFZZ	Socket, 3 Pin with Wire Leads	AE
CNS801	QCNW-1222AFZZ	Socket, 7 Pin & Plug 3 Pin with Wire Leads	AH
	QCNW-1223AFZZ	Plug 2 Pin/Plug 3 Pin x 3/ Plug 7 Pin/Plug 9 Pin with Wire Leads Assembly	AQ
	QCNW-1224AFZZ	Plug 2 Pin/Plug 3 Pin with Wire Leads Assembly	AL
	QCNW-1225AFZZ	Plug 2 Pin/Plug 3 Pin with Wire Leads Assembly	AP
	QCNW-1226AFZZ	Plug 2 Pin/Plug 3 Pin with Wire Leads Assembly	AF
	QCNW-1227AFZZ	Plug 2 Pin/Plug 3 Pin with Wire Leads Assembly	AG
CNS901	QCNW-1231AFZZ	Socket, 2 Pin with Wire Leads	AD
CNS701	QCNW-1232AFZZ	Socket, 3 Pin with Wire Leads	AE

REF. NO.	PART NO.	DESCRIPTION	CODE
⚠ F801	QFS-C321CAGNI	Fuse, T315mA, 250V	
⚠ F901	QFS-C202CAGNI	Fuse, T2.0A, 250V	
275	QFSHD2051AFZZ	Fuse Holder	AA
276	QHWS-3001AGFN	Lug	AA
J501	QJAKE0079AFZZ	Socket, Mixing Microphone	AE
J802, 803, J804, 805	QJAKH0075AFZZ	Socket, External Speaker Socket, External Speaker (Super Woofer Sound)	AN
J104	QJAKJ0089AFZZ	Socket, Deck 1 Monitor Output	AF
J801	QJAKJ0090AFZZ	Socket, Headphone	AF
J101 (A,B) J102 (A,B) J102 (C) J103 (A,C) J103 (B)	QJAKZ0113AFZZ	Line Output Phono/Line Input Earthing Terminal External Microphone Input Remote	AQ
	QJUM-0009AFZZ	Jumper, 10mm	
	QJUM-0010AFZZ	Jumper, 20mm	
	QJUM-0011AFZZ	Jumper, 12.5mm	
	QJUM-0012AFZZ	Jumper, 10mm	
	QJUM-0013AFZZ	Jumper, 12.5mm	
	QJUM-0014AFZZ	Jumper, 20mm	
280	QLUGP0109CEFW	Lug Terminal, 17mm	AA
281	QLUGP0111CEFW	Lug Terminal, 13mm	AA
⚠ SW902	QSOCE0581AFZZ	Voltage Selector	AG
⚠ J901, 902, SW901	QSOCZ2196AFZZ	AC Input DC 15V Input AC/DC Selector Switch	AH
SW104	QSW-B0132AFZZ	Switch, Dubbing	AF
SW105	QSW-B0132AFZZ	Switch, Deck 1 Tape Selector	AF
SW301	QSW-B0132AFZZ	Switch, Super Noise Reduction System	AF
SW502(A,B)	QSW-B0132AFZZ	Switch, Loudness	AF
SW103(A~D)	QSW-B0133AFZZ	Switch, Rcording Mode Selector	AG
SW107(A~D)	QSW-B0134AFZZ	Switch, Meter Indication Selector/Battery Check	AG
SW106	QSW-B0135AFZZ	Switch, Deck 2 Tape Selector	AF
SW108(A~D)	QSW-B0135AFZZ	Switch, FM Mode/Mute	AF
SW102(A~D)	QSW-B0136AFZZ	Switch, Function	AG
SW501(A~D)	QSW-B0136AFZZ	Switch, Mixing Microphone	AG
SW712	QSW-F0116AFZZ	Switch, Editing	AD
SW801	QSW-F0132AFZZ	Switch, Power	AD
SW701	QSW-F0137AFZZ	Switch, Deck 1 Main C	AE
SW702	QSW-F0137AFZZ	Switch, Deck 2 Main C	AE
SW705	QSW-F0137AFZZ	Switch, Deck 1 APLD	AE
SW713	QSW-F0137AFZZ	Switch, Pause	AE
SW710	QSW-F0159AFZZ	Switch, Deck 1 Main A	AE
SW711	QSW-F0159AFZZ	Switch, Deck 2 Main A	AE
SW703	QSW-F0160AFZZ	Switch, Deck 1 Main B	AE
SW704	QSW-F0160AFZZ	Switch, Deck 2 Main B	AE
SW707	QSW-F0162AFZZ	Switch, Deck 1 APLD Cut	AE
SW601	QSW-K0050AFZZ	Switch, APLD Input	AC
SW602	QSW-K0050AFZZ	Switch, APLD Input	AC
SW709(A,B)	QSW-P0295AFZZ	Switch, Tape Operation Mode Selector	AE
SW1(A~H)	QSW-R0189AFZZ	Switch, Wave-Band Selector	AQ
SW806 (A)	QSW-S0267AFZZ	Switch, Beat	AD
SW401(A,B)	QSW-S0309AFZZ	Switch, Phono/Line Input Selector	AF
SW101(A~L)	QSW-S0310AFZZ	Switch, Record/Playback	AG
282	QTANB9112AFFN	Terminal, Battery	AB
283	QTANN0254AFZZ	Terminal, External FM Aerial	AF
PL201	RLMPM0089AFZZ	Lamp, Meter/Dial Indicator	AE
286	RMICC0076AFZZ	Built-in Microphone	AF
ME201,202	RMTRL0205AFZZ	Meter, VU/Battery/Tuning	AW
287	RREVA0010AFZZ	Reverberant Unit	AN
	RTPEK0092AFZZ	Cassette Tape	AQ
288	LHLDW1089AFZZ	Wire Holder	AA
290	LHLDW1086AFZZ	Wire Holder	AA

REF. NO.	PART NO.	DESCRIPTION	CODE
292	LHLDW9002CEZZ	Wire Holder	AA
293	LX-WZ3017CEFN	Lock Washer	AA
294	LHLDZ1146AFZZ	Holder, Built-in Microphone	AC
295	PCOVU8127AFZZ	Cover, Lamp	AB
296	PCUSS0146AF00	Cushion, Echo P.W. Board	AA
297	LANGA0089AFFW	Bracket, Volume P.W. Board Retainer	AB
298	PCUSZ0012AFZZ	Shading, L.E.D.	AA
299	PCUSZ0013AFZZ	Shading, L.E.D.	AB
300	PGUMS0180AF00	Cushion, Power P.W. Board Protector	AC
301	LANGF0639AFFW	Bracket, Tuning Shaft Retaining	AA
302	LHLDC1056AFZZ	Holder, Bar Antenna	AA
303	JKNBK0245AFSA	Knob, Wave Band Selector	AE
304	JKNBN0510AFSA	Knob, Fine Tuning	AG
306	LHLDS1056AFZZ	Spacer, Wave Band Selector Knob	AC
307	LX-CZ0008AFZZ	Screw, Echo Retaining	
308	PFLT-0130AG00	Felt, Sub Frame	AA
309	PFLT-0462AF08	Felt, Cassette Compartment	AA
310	PGUMS0190AF00	Cushion, Transformer	AA
311	LANGH0142AFFW	Bracket, Handle Strengthen	AC
312	LANGH0143AFFW	Bracket, Speaker Strengthen (Left)	AG
313	LANGH0144AFFW	Bracket, Speaker Strengthen (Right)	AG
314	PFLT-0464AF00	Felt, Air Duct	AA
316	LHLDW1073AFZZ	Wire Holder	AA
317	LHLDW1059AFZZ	Wire Holder	AA
319	PFLT-0339AF00	Felt,	AA
320	PGIDF0053AF00	Felt, Transformer	AC
321	PGUMS0194AF00	Cushion, Transformer	AA
322	LANGF0657AFFW	Bracket, Switch P.W. Board Strengthen	AC
323	TLABH0134AFZZ	Label, Antenna	AA
324	LANGF0658AFFW	Bracket, Switch P.W. Board	
	SPAKA0745AFZZ	Packing Add, Lower Side	AH
	SPAKA0746AFZZ	Packing Add, Upper Side	AH
	SPAKC1818AFZZ	Packing Case (GF-777H)	AS
	SPAKC1836AFZZ	Packing Case (GF-777H for Helip)	
	SPAKC1837AFZZ	Packing Case (GF-777E)	
	SPAKX0419AFZZ	Pad (Back)	AD
	SPAKX0425AFZZ	Pad (Punching Metal)	AF
	SPAKP0174AFZZ	Bag, Unit	AH
	SSAKH0024AGZZ	Bag, Operation Manual	AA
	TCAUA0178AFZZ	Caution Label, Arabic, AC Supply Cord (GF-777H)	AA
	TCAUH0056AGZZ	Caution Label, AC Supply Cord (GF-777E)	AA
	TCAUZ0039AFZZ	Caution Label, Bag (GF-777E)	AA
	TGANG1054AFZZ	Warranty Card, For Users in Europe (GF-777H)	AA
	TGANE1117AFZZ	Warranty Card, For Users in UK (GF-777E)	AA
	TINSZ0316AFZZ	Operation Manual (GF-777H, Black Printing)	
	TINSZ0323AFZZ	Operation Manual (GF-777H, Blue Printing)	
	TINSE0751AFZZ	Operation Manual (GF-777E)	
	TLABJ0006AFZZ	Label, Made in Japan	
	TLABS0079AFZZ	Label, Funk (GF-777H)	AA
	TLABS0080AFZZ	Label, SEMKO (GF-777H)	
	TLABS0081AFZZ	Label, NEMKO (GF-777H)	
	TLABS0082AFZZ	Label, DEMKO (GF-777H)	
	TLABS0083AFZZ	Label, SEV (GF-777H)	
	TLABS0108AFZZ	Caution Label, SEEG DV (GF-777H)	

REF. NO.	PART NO.	DESCRIPTION	CODE
	TLABT0053AFZZ	Label, License	
	TLABZ0118AFZZ	Label, Free From Taxes	
	TLABZ0155AFZZ	Caution Label, Punching Metal	
	TLABZ0195AFZZ	Characterization Label Ⓛ, 28W (GF-777H)	
	TLABZ0210AFZZ	Characterization Label Ⓛ, 90W (GF-777H)	
	TLABZ0197AFZZ	Characterization Label Ⓡ	
	TLABP0193AFZZ	Label, Speaker	AB
	TLABZ0214AFZZ	Characterization Label Ⓛ, (GF-777E)	
	TMAPC0818AFZZ	Schematic Diagram	
	TTAGH0203AFZZ	Tag, English/German/French/Spanish/Swedish	
	UBATU0003AGZZ	Battery (GF-777H)	AE
SP1, 3	VSP0050TB344A	Speaker, Tweeter	AN
SP2, 4	VSP0016PB614A	Speaker, Woofer	AV
SP5, 6	VSP0016WB604A	Speaker, Super Woofer	AX

PWB ASSEMBLY (Not Replacement Item)

REF. NO.	PART NO.	DESCRIPTION	CODE
	DUNTL0147AF06	Pre-amp. Circuit (Combined Assembly)	–
	DUNTM0069AF02	Power Amp. Circuit (Combined Assembly)	–
	DUNTR0175AF02	Tuner Circuit (GF-777H) (Combined Assembly)	–
	DUNTR0175AF04	Tuner Circuit (GF-777E) (Combined Assembly)	–
	DUNTZ0441AF02	Mechanism Circuit (Combined Assembly)	–